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ABSTRACT

This study subdivides chronologically into two portions. The first deals with the conception of the reform and the circumstances leading up to the publication of the scope of the reform, the institutional infrastructure, and the processes of innovation. These subtopics correspond to the division into objectives, means, and processes. The scope of the reform is analyzed in the light of four categories of innovation: objectives and functions, organization and administration, roles and role relationships, and curriculum. This framework permits the analysis of two types of innovation. The first is innovation consisting in changing the infrastructure so as to create (or eliminate) institutions or to change institutionalized relationships within the infrastructure. The second is innovation by the institutions themselves. (Author/IRT)

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The Peruvian model of innovation: the reform of basic education

Stacy Churchill

A study prepared for the
International Educational
Reporting Service

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
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The Peruvian model of innovation: the reform of basic education

by Stacy Churchill

Assistant Co-ordinator
of Research and Development Studies,
The Ontario Institute for Studies in Education

Study prepared for the
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Preface

In a study of *Educational reform in Peru* (No. 16 in this series) Judithe Bizot situated the reform in its socio-historical context and showed that indeed it was inseparable from this context. 'The ambitious premise [of the Commission for Educational Reform], she wrote, 'was that the ultimate goal of any education system must be to create "the new Peruvian man in a new Peruvian society". . . But just as it would be incumbent on the new Peruvian society, through a transmutation of the educational process, to help create the new Peruvian man, so the new man would be called on to help in shaping the new society.' Now Stacy Churchill presents a penetrating analysis of the reform with a particular focus on basic education. By situating his study within the framework of more general analytical thinking on the process and nature of innovation, he completes a valuable insight into the functioning of this unique model.

In his Introduction, he makes no bones about stating his own position with regard to the Peruvian reform. What attitude, indeed, could be more conducive than such enthusiasm to the thoroughness called for in undertaking this study?

The views expressed in it are not necessarily those of the Unesco Secretariat, which, however, takes this opportunity of expressing its keen appreciation of this lucid contribution to the present series.

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Publications

Itä-Karjalan kohtalo 1917-1972 [The fate of East Karelia 1917-1922]. Helsinki, Söderström, 1970.

L'enseignement individualisé par ordinateur (with J.L. Plante and W.P. Olivier). Ottawa, Lemeac, 1974.

Modelling a national R and D system: a conceptual framework. Consultant paper, National Institute of Education, Washington, 1974.

Restructuring educational R and D in Ontario. *Interchange* (Toronto), vol. 6, no. 1, 1975, p. 49-64.

The Franco-Ontarian educational renaissance: schooling for a submerged linguistic minority. *Prospects* (Paris), vol. VI, no. 3.

Table of contents

Introduction, *p. 1*

I. Origins of the reform, *p. 6*

The Peruvian setting, *p. 6*

The revolutionary change, *p. 10*

Designing the reform: process, *p. 12*

Designing the reform: revolutionary diagnosis and response, *p. 14*

II. The scope of the reform, *p. 18*

Hypotheses, *p. 18*

Overview, *p. 18*

Category 1: objectives and functions, *p. 20*

Category 2: organization and administration, *p. 24*

Category 3: roles and role relationships, *p. 25*

Category 4: curriculum, *p. 28*

Summary and conclusion, *p. 30*

III. Creation of an infrastructure for educational renewal, *p. 31*

The need for an institutional infrastructure for educational renewal, *p. 31*

Overview of the Peruvian Infrastructure Reform, *p. 32*

The National Institute of Educational Research and Development:
INIDE, *p. 34*

Major operational subsystems of the infrastructure for educational
renewal, *p. 36*

Conclusions, *p. 40*

IV. Innovation processes: the Peruvian model of innovation, *p. 41*

Accomplishments of the reform, *p. 41*

From revolution to reform, *p. 44*

Planned reform implementation, *p. 47*

Obstacles to change processes, *p. 49*

Conclusions: the Peruvian model of innovation, *p. 51*

Abbreviations used, *p. 52*

Bibliography, *p. 53*

Introduction

Basic education in the Peruvian educational reform

On March 21 1972 the Government of Peru approved the General Law of Education¹ and thereby initiated one of the most sweeping educational reforms undertaken in any country. Through a single law the government undertook to reorganize the entire structure of formal education: pre-school, primary, secondary, university and all related educational institutions. The law brought within a common legal framework the most diverse types of educational activities: adult literacy programmes, on-the-job learning experiences, learning within the family, particularly during the period of infancy and early childhood (0-5 years), special programmes for the handicapped and retarded, informal education through the mass media, and specific activities that support the educational endeavour, such as educational research, educational technology, construction of schools, and student welfare programmes. Not only are old administrative patterns and structures to be overturned, the entire aim and content of the education system is to be changed. The reform is to be 'profoundly humanistic' and is defined 'as a movement oriented to the development and structural change of Peruvian society and, consequently, to the liberation and affirmation of our national being' (LGE p. 8-9). The broad use of Indian languages, particularly Quechua, is admitted into the educational system as a means of facilitating education of Amerindian minorities.²

The Peruvians have a term, *bellas palabras* or 'beautiful words,' to describe laws, decrees and statement of governmental intentions that are never applied in practice. The author believes that this term does not apply to the actions that have resulted to date from the General Law of Education. The reform is not yet completed and numerous problems remain to be solved, perhaps the most difficult ones. But the record of accomplishment by Peruvian educators during the years that have elapsed since the promulgation of the law indicates both a firm will to put into practice the intentions underlying it and great skill in solving the problems raised by such a gigantic endeavour. The record fully justifies including the Peruvian educational reform in the studies of educational innovation sponsored by the International Bureau of Education.

The topic chosen for study, the reform of basic education in Peru, is that to which the national authorities have given priority in the implementation of the reform. Conversion to the reform began in 1972 at the time of the publication of the General Law and, as of the school year 1976, more than half of the total population covered by basic

1. Hereafter referred to by the abbreviation 'LGE' (Ley General de Educación); page numbers refer to the booklet version: *Ley General de Educación. Decreto Ley No. 19326*. Lima, MINEDUC, March 1972. See Appendix for list of abbreviations.

2. This disposition has been subsequently reinforced by the recognition of Quechua as the second official language of the country; its study is to be obligatory at all levels of education. Decreto Ley 21156, 27 May 1975.

education will be enrolled in classes studying under the reformed programme.¹ It is thus possible here to refer to actual happenings rather than to plans or theoretical schemes.

In this study, the term 'basic education' is used in the sense given in the General Law, specifically the first nine grades of formal instruction in the education system, divided into two types (*modalidades*) of programme: 'regular basic education' for children of the appropriate ages and 'basic education [for] work' (*educación básica laboral*) for persons 15 years of age and over. In addition, the study will make reference to the major lines of activity that reinforce and complement basic education, particularly adult literacy programmes, the phase of 'initial education' prior to entering basic education and 'educational extension' defined as 'all those actions carried out by the State and the community through informal education ... for the purpose of promoting and stimulating the continuing education (*educación permanente*) of the Peruvian population ...' (LGE Art 256). It should be noted in passing that the Peruvian definition of basic education is entirely consistent with that formulated recently by a group of educators meeting under the auspices of Unesco: 'This cycle is, by definition, the first phase of the educational process within the perspective of continuing education'².

Implications of the Peruvian educational reform

It is no exaggeration to state that the Peruvian educational reform has become a focus of interest for broad sectors of international opinion. In part this is a matter of coincidence. The reform was announced almost concurrently with the publication of the Faure report³ and came to be a frequent topic of discussion in meetings dealing with that report. A process of mutual influence is clearly visible: the Peruvian reform embraced some of the major ideas of the Faure report and, conversely, the report used the Peruvian educational reform as the example to illustrate its first and most important recommendation regarding the concept of lifelong education.

On the other hand, the content of the reform -- independently of any coincidence -- amply justifies the attention it has received. For example, it is easy to perceive the general political and social importance of some of its features for other developing nations:

- the conception of education as an instrument of national development (spiritual, social and economic) and as a means of national affirmation;
- the political and social climate surrounding the reform in which a revolutionary government is undertaking major social transformations affecting every sector of life (see below for further discussion);
- the introduction of lifelong continuing education as an underlying philosophy of action;
- the use of 'basic education' as the core for organizing the educational experiences of the majority of the population;
- the espousal of bilingualism in the education system as a valid form of educational development.

Similarly, the reform amalgamates these general options with a series of institutional approaches and change mechanisms that are of great interest for the study of educational

1. *Plan Bienal Sector Educación 1975-76*. Lima, MINEDUC Oficina Sectorial de Planificación, 1975, p. 38 & 55-6.

2. *Reunión de Expertos sobre el Ciclo de Educación Básica, Informe Final*, Paris, Unesco: 24-29 de junio de 1974, p. 3.

3. *Learning to be*, Paris, Unesco-Harrap, 1973. 313 p.

innovation. Study of the reform can shed light on topics such as:

- interaction between educational and social change processes;
- use of quantitative planning as a mechanism for channelling social change;
- efficiency of organized persuasion and retraining as a means of obtaining support and co-operation from school personnel;
- development of community participation in educational affairs through administrative decentralization and creation of local assemblies;
- systematic research and development for curriculum reform;
- co-ordination of central planning, individual participation and local autonomy.

These topics are merely an illustrative sampling from the many issues raised by the Peruvian experience. Of course, any major modern reform is likely to raise a number of them. But the Peruvian reform is unique in that its authors consciously came to grips with these issues, made deliberate choices and clearly set forth the results in their legislative and administrative acts. The authors were familiar with the most modern currents of political and scientific thought on national development, social innovation, and educational practice. They made the reform an act of conscious social experimentation in which these currents of thought were brought together and confronted with their own national reality. The result of their work, the General Law of Education, along with subsequent legislation and regulations, is almost unparalleled in its richness for comparative study.

Objectives and limitations of this study

No short study can pretend to cover, even in summary, all aspects of the reform as they apply to basic education. Indeed, the General Law of Education alone, in brief legal language (though a model of clear, readable style), equals or exceeds in length the size of booklets in this series of publications! Obviously our purpose here can only be to point the way for interested readers and suggest to them the areas where their interest may lead to fruitful discoveries and reflections, which must be based upon further reading and study. The bibliography at the end of this booklet provides suggestions for such reading. Three cautions should be made explicitly.

(a) This is *not* an evaluation of the reform. Initial implementation of the reform will require nearly a decade, and evaluation of its results will necessarily be possible only after a generation. Nor is it an assessment of the general political situation of Peru in relation to the reform.

(b) As a non-Peruvian, the author enjoys the advantage of detachment from the Peruvian scene but, despite a number of visits to the country since 1971, cannot present events there with the same cultural perspective as a native. This is an important shortcoming when studying a country whose present continues to incorporate the superimposed elements of three great civilizations -- Amerindian/Incaic, Hispanic, and *Criollo*.

(c) This study relies heavily on the version of events given in official publications and on the author's conversations with national authorities in Peru. The national authorities' frankness in discussing the difficulties encountered by the reform, is reflected in the text that follows¹. The possibility of bias arising out of the author's personal commitment to

1. Mention should be made of the time graciously accorded by the late Augusto Salazar Bondy, then (1972) President of the Consejo Superior de Educación; Dr. M. San Martín Frayssinet, Director-General of INIDE; Dr. Andrés Cardo Franco, Director-General of the oficina Sectorial de Planificación; Sr. Antonio Manzur Burrios, Director-General of Higher Education; and Dr. Rolando Andrade Talledo, Director-General of Basic Education.

many of the announced goals of the reform should be made clear from the start.

Analytical frameworks

Since the purpose of the 'Experiments and innovations in education' series of publications is to foster the comparative study of innovations, it is necessary to mention briefly the analytical frameworks used. The study subdivides chronologically into two portions. The first deals with the conception of the reform and the circumstances leading up to the publications of the General Law of Education. Although this period merits separate historical analysis to isolate the roles of individuals, groups, and currents of opinion, only the most salient features have been summarized here, in order to provide more space to analyse the reform itself. The second portion constitutes an analysis of the scope of the reform, the institutional infrastructure, and the processes of innovation. These sub-topics correspond to the division into objectives, means, and process. Within them, the emphasis shifts progressively from legal texts to institutional development to educational change. As mentioned earlier, the purpose is essentially to provide the reader with a guide to study, rather than to expound the entire detail of legislative texts, institutional structures and chronologies of events.

The scope of the reform is analysed in the light of the categories of innovation proposed by Per Dalin, the Norwegian educator who co-ordinated a recent comprehensive international study of innovations. The research, under the aegis of the Centre for Educational Research and Innovation, an agency of the Organisation for Economic Co-operation and Development, reviewed innovations in several countries at the central, regional and school levels.

The study¹ proposed a set of four categories, within each of which a distinction was made between the *general* level (the over-all education system) and the *institutional* level (the individual school and its environment):

category 1: Objectives and functions. The objectives and functions of the school in its broader social and economic context;

category 2: Organization and administration. The organization and administration of the school system including control, finance, decision making and supply of logistics;

category 3: Roles and role relationships. Role definitions and role relationships, that is innovations to improve the roles which individuals perform and the relationships between individuals and groups;

category 4: Curriculum. Aims, content, methods, evaluation, material and internal organization of instruction.

Category 4 of the Dalin typology is sufficiently broad for a further distinction to be made, using the three-level categorizations proposed by Sixten Marklund².

Level 1: The external structure of the school, above all in respect of the number of grades, stages and divisions into different courses of studies.

Level 2: Timetables and syllabuses, with aims and content of subjects or groups of subjects.

Level 3: The teacher's instructional methods, the pupils' way of working, educational materials, study material and forms of evaluation.

1. Dalin, P. *Case studies of educational innovation: IV. Strategies for innovation in education*. Paris, OECD, 1973, vol. 4, p. 39-41.

2. Cited by Stuart Maclure, *Styles of curriculum development*. Paris, OECD, 1972.

For analysing *institutional relationships*, the framework used is one proposed by the author in previous studies¹, the concept of an institutional 'infrastructure'. With respect to educational innovation, institutions (broadly defined) are primarily categorized according to their relevance for three sets of functions:

- participation and decision making;
- execution and implementation;
- planned renewal and innovation.

This framework permits the analysis of two types of innovation. The first is innovation consisting in changing the infrastructure so as to create (or eliminate) institutions or to change institutionalized relationships within the infrastructure. The second is innovation *by* the institutions themselves. It may be noted that the third category of function, planned renewal and innovation, is a relatively new institutional role, corresponding to various forms of research, development and information dissemination ('linkage').

No single satisfactory framework appears to exist in the scientific literature to analyse all types of educational *innovation processes*. Therefore the approach will be to identify several 'strands' of innovation-oriented processes, each of which is discussed in eclectic fashion. The vocabulary of analysis borrows from the general literature on innovations summarized by M. Huberman in this same series of publications².

1. Churchill, S. Restructuring educational R and D in Ontario. *Interchange* (Toronto), vol. 6, no. 1, 1975; *Modelling a national education R and D system: a conceptual framework* (Consultant's Paper). Washington, National Institute of Education, 1974.
2. Huberman, M. *Understanding change in education: an introduction*. Paris, Unesco: International Bureau of Education, 1973. 99 p.

I. Origins of the reform

The Peruvian setting

The options chosen by national authorities in designing an educational reform can seldom be related in a simple, direct way to general background data on a country. Educational innovation requires, above all, the definition of specific objectives in human terms and the choice of specific means suited to the social setting. Geography, demographic trends, economic structures and even cultural history provide the general context for the decision making process, but they do not dictate its content.

Nevertheless, foreign students of a reform must be sensitized to general national characteristics which, often implicitly rather than explicitly, are taken into account in formulating it. Table 1 summarizes a few statistics concerning Peru; but raw numbers tend to raise more questions than they answer. For example, *per capita* gross domestic product is an underlying variable of national development but gives no clue to social structure, income distribution or external dependency relationships with other countries. Yet these latter factors are among those which were most prominent in the minds of the persons who designed the educational reform in Peru. Before we turn to their specific motivations, let us summarize those situational factors which, for foreign observers, may appear to have a distinctive explanatory value as a basis for comparisons with other nations.

Extreme geographic diversity. The geography of Peru divides broadly into three clearly distinctive regions. The dry coastal plain is the most densely populated area, dominated by the presence of the capital, Lima, with its three million inhabitants. More than one-third of the population of the country live in this coastal strip accounting for about one-tenth of the total surface. Their numbers are growing rapidly through internal migration from the rural interior. They are drawn by the factories, the plantations developed to produce export products such as sugar, the seaports and the major trading centres of the modern Peruvian nation. The second region, the Andes mountain range, can be said to cut the country into two. But this is only a figure of speech. The mountains do not cut so much as they fragment. Spiritually and physically they overshadow all except the most eastern regions. The gigantic peaks of 6,000 metres or more in height, the windy plateaux at heights of 4,000 and 5,000 metres, and the deep, tortuous valleys seem to penetrate everywhere, rendering communication difficult and making human survival an unending test of endurance, skill and courage. Despite such conditions, this mountainous area remains the home of half the Peruvian population. On their eastern side, the Andes ripple downwards in forest-cloaked serenity to form the continental rim of the Amazon river basin. This eastern slope soon turns into a vast marshland and tropical rain forest; it accounts for two-thirds of Peru's land surface but is inhabited by only about one-sixth of the population.

Table 1. Basic information on Peru¹

Surface area	1,285,216 km ²			
Population (1972)	13,572,052			
Population density	approx. 12 persons/km ²			
Annual rate of increase	3.2%			
Foreign trade (1973 in thousands US dollars)				
Imports c.i.f.	\$ 1,019,000			
Exports f.o.b.	\$ 1,047,000			
Estimated Gross Domestic Product (US dollars)	1960		1972	
Total (millions)	\$ 2,083		\$ 5,474	
Per capita	\$ 208		\$ 379	
Education ² (1974)	Totals	of which:	Elementary ³	Secondary
Enrolment	4,185,813		2,865,334	911,866
Teaching personnel	132,334		74,013	39,024
Educational establishments	24,729		20,552	1,899

1. All data except on education: *Statistical Yearbook 1974*, New York, United Nations, 1975.

2. *Desarrollo de la Educación Peruana 1973-75*, Lima, MINEDUC, 1975.

3. Includes primaria diurna, básica regular, primaria nocturna, básica laboral.

Extreme cultural diversity. To a greater degree than in most nations, geographical diversity coincides with and has tended to reinforce cultural diversity in Peru. In pre-Colombian times, the Inca ruled a vast empire stretching north and south beyond Peru's present borders; the Andes were the heartland of all political, religious, economic and social life. The colonial conquest by Spain and the subsequent development, in recent times, of an export-oriented economy resulted in a definitive power shift to the coastal region, even though the bulk of Peru's population continued to live in the mountains. However, down to the present, the mountain inhabitants have frequently retained many of their ancestral customs and, to a significant degree, their languages (dialects of Quechua and Aymara). The degree of Indian cultural survival is difficult to measure, because of the variety of possible criteria and the widespread existence of bilingualism. Census figures from 1961 indicated approximately 46 per cent of the population as being Indian, and about 33 per cent of the total population as being non-Spanish speakers; modern Peruvian sociologists, concerned with criteria of social structure, estimated in the early 1960's that approximately a quarter of the population lived in so-called *comunidades de indigenas*, Indian communities in various stages of transition between ancestral and 'modern' customs¹. The Indian tribes living in the eastern jungle regions speak a great variety of languages and dialects and represent a different stage of cultural evolution. Most had only limited contacts with the Incaic civilization and are making, even today, their first contacts with urban culture. At the opposite extreme, the coastal area presents a picture of widespread urbanization; the majority of the inhabitants speak Spanish as their only language, and arrivals from indigenous areas in the mountains who conserve an Indian language rapidly acquire functional bilingualism and frequently abandon their native dialects altogether.

Rapid economic and social development in the recent past. During the late 1950's and throughout the sixties, Peru underwent sudden acceleration in the pace of its economic and social evolution². From the mid-fifties onward the annual rate of economic growth showed sustained periods in excess of 6 per cent, sometimes reaching 9 per cent; during the sixties Peru's economic growth was probably the most rapid in South America, approximately 60 per cent, in terms of real Gross Domestic Product, during the decade. A halving of the crude death rate during the two decades from 1940 onwards meanwhile raised the rate of population growth to among the highest for any country in the world, estimated at 3.1 per cent per annum. Despite this, the rate of economic expansion was so high that *per capita* economic growth was perhaps the second most rapid in the continent. These favourable indices masked, however, underlying problems; the rapid growth produced enormous social strains. Various writers³ have emphasized the extreme inequality of income distribution which characterized Peru in that period. Internal migration, combined with the high population growth rate, contributed to the spread of insalubrious living conditions in the shanty towns that sprang up around larger cities. Furthermore, this growth itself had two underlying characteristics that foreshadowed serious problems for the future. To begin with, it was what economists call 'export-led' growth and occurred within the framework of economic links with other nations that many other Peruvians already felt were links of quasi-dependency. Secondly, growth was unevenly distributed on a regional basis, accentuating strong trends of internal rural-to-urban migration.

1. Matos Mar, J. *Que son las 'Comunidades de Indigenas'?* in: Salazar Bondy, Sebastian, et al., *La encrucijada del Perú*. Montevideo, 1963, p. 62 ff.

2. This section follows closely the analysis by George Andrews Hay, *Educational finance and educational reform in Peru*. Paris, International Institute for Educational Planning, 1974, p. 121-174.

3. cf. Paulston, R.G. *Society, schools and progress in Peru*. Oxford, Pergamon Press, 1971, p. 91-92.

Table 2. Key indicators of educational expansion in the 1960's

<i>Enrolments¹</i>	1960	1970	Annual growth rate 1960-70	
Primary	1,459,600	2,563,400	5.8%	
Secondary	198,200	674,300	13.0%	
University	31,000	110,600	13.6%	
Total, inc. pre-school and all other formal	1,728,500	3,484,100	7.3%	
<i>Rates of enrolment by age¹</i> (in per cent of age class)	1960		1967	
	Male	Female	Male	Female
7- 9 years	56.9	50.5	79.5	70.6
15-16 years	30.4	16.5	42.5	23.1
20-24 years	1.7	0.9	2.4	1.3
<i>Illiteracy rates²</i>	1961		1972	
Population 15-39 years	32.4%		19.7%	
All adults 15 yrs. and over	38.8%		27.7%	
<i>Average educational level²</i>	1961		1972	
Number of years of education completed	2.92		3.71	

1. Hays, G.A. *Educational finance and educational reform in Peru*. Paris, International Institute for Educational Planning, 1974. p. 10, table 1 and p. 17, table 8.

2. *Desarrollo de la educación Peruana 1973-75*, Lima, MINEDUC, 1975.

Explosive growth in the education system. Peru entered the growth decades of the 1950's and sixties with an essentially traditional education system -- 'traditional' in the sense which has caused the term to be identified with the need for reform in many countries. Primary schooling was available only to a modest portion of the population; secondary was traditional in content and reserved for a very small proportion of those who passed through elementary school; higher education in the universities was available to only a very small élite. Population growth, rural migration to the cities, and economic growth combined to produce a situation where the social demand for schooling grew in almost explosive proportions. Like the economic and demographic growth, it occurred on a sustained basis but at much higher rates. For the decade 1960-70, average annual growth rates in enrolment were: 5.8 per cent for primary, 13.0 per cent for secondary and 13.6 per cent for university. The cumulative effects of such growth, occurring on a *sustained* basis, were staggering: primary enrolments moved from 1,459,600 to 2,563,400; secondary from 198,200 to 674,300; university from 31,000 to 110,600¹.

Although numerous minor reforms were carried out over the years,² they did not fundamentally alter the formal content and structure of education. As a result, existing structures suffered serious imbalances and deep-set tensions. For example, at the secondary level the expansion of student numbers was accomplished, in part, by increasing the student-teacher ratio by almost 50 per cent nationwide³. As with economic growth, gross regional disparities continued to exist as well; an OECD study noted in 1967 that in the Lima district only 18.4 per cent of inhabitants had never attended school, whereas in the least educated region, the southwest, 70.3 per cent had not⁴. The differences correlate strongly with the presence of large numbers of Indians having little or no knowledge of Spanish and are reflected in illiteracy rates. In 1961 the national illiteracy rate was 39 per cent of adults over 15 years but averaged 65 per cent in the departments with the highest proportion of non-Spanish speakers⁵. The balance-sheet on the period of the 1960's and its educational expansion remains, despite the problems, favourable. Table 2 shows the important progress made in key indicators of educational development.

The revolutionary change

In October 1968, a movement of the Peruvian Armed Forces overthrew the government of President F. Belaunde and replaced it by a military junta. General Juan Velasco Alvarado was named to succeed to the presidency. This change of government marked a turning point in Peruvian history and may be identified as the main factor leading to Peruvian educational reform.

It has not been unusual in Peruvian history for the military to hold power. In fact, as some observers have noted,⁶ the presidency has been occupied more by military figures than by civilians. From a distance of several years, it is obvious that the change of government in 1968 was different from earlier military coups. In the intervening period since then, a revolution has taken place in the broad sense of the term. As our purpose is not to study political history, we should only dwell here on the characteristics of this change which will be useful for explaining the origin, conceptualization and implementation of the educational reform.

1. Hays, op. cit., p. 10.

2. Carlos Salazar Romero, *Pedagogía y educación en el Perú*. Lima, 1969. p. 44-5.

3. Hays, op. cit., p. 22.

4. *Human resources, education and economic development in Peru*. Paris, OECD, 1967. p. 39, cited by Hays, *ibid.*, p. 14.

5. cf. Paulston, op. cit., p. 14, table 2.

6. Dollfus, O. *Le Pérou*. 2nd. ed., Paris, P.U.F., 1972. p. 119.

Preparation. The military government had a carefully prepared programme of action, drawn up prior to the actual seizure of power. Eventually rendered public under the title 'Inca Plan'¹, the programme is characterized by a high degree of internal logical consistency in which the interrelationship of the components has been carefully thought through. Academic studies of the revolutionary process have emphasized the role of preparatory work by officers at the general staff school of the armed forces, the Centro de Altos Estudios Militares². In the version revealed in July 1974, the plan contained 31 major headings in the section entitled 'Specific objectives and actions'; 'Reform of education' was number 19. Each heading is divided into three parts: a critical diagnosis of the then existing situation, a statement of revolutionary objectives, and a list of specific actions proposed as a means of reaching these objectives.

Execution. The major points of the Inca Plan have been put into practice systematically and thoroughly. Had the plan been published in 1968, world opinion would hardly have noticed the education reform amidst all the other measures set forth. Items in the plan which subsequently were implemented, to choose only a few of the more noteworthy, include nationalization of the holdings of the International Petroleum Company, a strong line in international relations to reverse a situation of dependency ('particularly vis-a-vis of the United States of America'), agrarian reform 'in all the national territory, without privileges or exceptions', nationalization of water rights (agriculture being mainly dependent on irrigation), tightening drastically the conditions governing the operations of international mining firms, and progressive takeover of credit and insurance institutions³.

Planning. The revolutionary programme included a special section on planning. The previous regime was criticized because 'group interests' reduced planning to mere 'formalism'; and the programme announced the intention of institutionalizing planning in the public administration of the country.⁴ In connexion with what has just been said about the determined execution of the Inca Plan itself, this emphasis indicated a fundamental concern of the regime with using planning as a technique for social change. Subsequent developments tend to confirm this.

Participation. The Inca Plan criticized earlier governments for partisanship, rejected the existing legislative system; similarly, the public administration was accused of bureaucracy, lack of planning, inefficiency and dishonesty. Long-term reforms were promised for both sets of problems. Meanwhile, the programme noted that the 'near totality of the population is deliberately excluded (*marginada*) from the solution of problems affecting it' and promised to: promote free association of persons, prepare the population to participate effectively in all the activities of their associations and to 'orient the functioning of the associations, avoiding their manipulation by minorities or groups with interests extraneous to them'.⁵ The regime has created, in fact, a variety of participatory mechanisms and, with some exceptions, made them function with minimal control by earlier party and union leaders. These participatory mechanisms include

1. Reproduced in its entirety: 'El Plan Inca', in: *El proceso peruano, lecturas*, p. 14-39, Lima, INIDE, 1974, 364 p.
2. e.g. Jacqueline, Jane S. The politics of development in Peru. Unpublished doctoral dissertation. Stanford University, 1971.
3. 'El Plan Inca', op. cit., items nos. 1,3,4,5,8,16.
4. *ibid.*, item no. 2.
5. *ibid.*, items nos. 25, 27, 29.

placing workers' representatives in the directorates of industrial, commercial, fishing and mining enterprises (most of which are in the process of gradually being acquired by the workers themselves under a system of profit-sharing and share distribution). For general social and political action, particularly at the local level, the government has created SINAMOS (Sistema Nacional de Apoyo a la Movilización Social). With strong leadership from the armed forces, SINAMOS mobilizes local initiatives in diverse domains, such as projects for urbanization and organization of co-operative production enterprises. In addition it has played a role of direct communication between the local level and the military, a structure of communication parallel to the main administrative machinery of the State. The application of the participation models has included one important facet, namely the deliberate recruitment of leftist intellectuals and thinkers to serve as advisers in important decisions of the regime.¹

Designing the reform: process

The immediate origin of the educational reform may be traced to item 19 of the Inca Plan. At the most general level, then, the innovation process might appear to reduce to a simple schema: revolutionary programme; revolutionary seizure of power; implementation of the programme. Although correct in general outline, this schema tends to ignore the complexity of the process, and above all, to make it appear as if the revolutionary programme included a detailed map of actions in the field of education. This erroneous impression should easily be corrected by a simple comparison: in the printed version of the Inca Plan, the actions proposed for education occupy about 20 lines; the General Law on Education, as has been noted, is a long document, almost 100 pages densely printed. The schema given above overlooks the importance of the phase between seizure of power and implementation of the programme -- the design phase, in which the general programme is confronted with the myriad details of organizing and administering a large social sub-system. It will now be useful to outline that design process, before considering its content and results.

Context. The reform grew out of a decision to include education among those aspects of Peruvian society which the armed forces movement had decided to change. This context is typical of most revolutionary situations: education is viewed in these situations as *one among several means* to achieve social reform. Thereby a *mutual dependency relationship* is created. The education reform can be based upon the assumption that complementary reforms affecting other national sectors will assist its aims. For example, extension of primary education among poorer sectors of the population in the Andes requires significant improvement in family socio-economic conditions as a prerequisite for regular attendance and successful performance of children in school. Conversely, the social reform postulates that the education system will inculcate values and skills which favour social change. To pursue the example, the socio-economic development of Indian communities might depend upon their cohesion as a social group, and the role of the school in furthering the Spanish language at a certain stage of development might tend to increase the alienation of the members of the community from their social group.² This interdependency was emphasized in a message issued in July 1970 by President Velasco:

1. Palmer, D.S. 'Revolution from above': military government and popular participation in Peru, 1968-72. Unpublished doctoral dissertation, Cornell University, 1973, p. 103, 259-61.
2. cf. definitions of 'alienation', 'conscientization' and 'cultural imposition' included in the reform law: LGE, p. 87-8, 90.

'Without an effective, profound and permanent transformation of Peruvian education, it is impossible to guarantee the success and continuity of the other structured reforms of the revolution. This explains why the educational reform, the most complex but perhaps the *most important* of all the reforms, constitutes an essential requirement for Peruvian development and a central objective of our revolution.'¹ A final characteristic of the general revolutionary context is that revolution based upon an established programme implies that educational reform is viewed primarily as a matter to be carried out. Actual decisions do not centre around whether reform should happen. Questions are raised, instead, about which objectives are best suited to revolutionary goals, what aspects of education should be reformed, and how best to effect the reform.

Phases. The process of designing the Peruvian educational reform was influenced both by characteristics of the general revolutionary model discussed above and by the specific characteristics identified in the previous section as part of the Peruvian process. A few dates may help situate the speed of events. The first few months of the new regime were occupied with consolidating control over the major elements of the state apparatus; in March 1969 a series of 'organic' laws reorganized several ministries, including the Ministry of Education. By December of the same year, the Minister of Education, General Alfredo Arrisueno Cornejo, was in a position to prepare public opinion for a 'total' reform of education, 'from the underlying principles of education to its implementation aspects, that is the infrastructure, the curricula, the methodology, the training of teachers'.² During the following months a special commission, the Reform Commission, hammered out the details of the reform proposals, which were printed in a document called the 'General Report', ready for release at the end of 1970.³ After nearly a year and a half of public discussion and debate, the General Law was promulgated on 24 March 1971.

Options. Of the decisions faced by the Peruvian authorities, the most important for the innovation process were those concerned with participation -- who should be involved, at what point and for what purposes. Without access to documents on the actual decisions made, the best that can be done now is to note the evidence of the way that these problems were dealt with in practice. The range of options available was, to begin with, somewhat limited. The situation diagnosis in the Inca Plan had identified the educational bureaucracy as an object of change, as well as an obstacle to change; the impetus to reform the structures came from outside them. In addition, the plan criticized the teaching profession for being 'politicized', implying that the partisan leanings of teachers would not be used as a guide to reform. Finally, at the most basic level, the reform was intended to benefit particularly those whom the present social and economic system excluded entirely, the *marginados*, that is, the very persons whose low level of education excluded them from effective participation in decision making.⁴

The first option of note concerned the composition of the Education Reform Commission. In practice, it was made up of individuals who came from *outside* the Ministry of Education. Most were left-wing intellectuals, that is persons with strong university training and ties; they included such persons as Carlos Malpica and Augusto Salazar Bondy, who later became the prime spokesman for the reform. The significant exception was Dr. Andres Cardo Franco, who had occupied the post of Director-General in

1. Message of Pres. Juan Velasco Alvarado, cited (frontispiece) in: Comisión de Reforma de la Educación. *Reforma de la educación Peruana. Informe General*. Lima, 1970. Abbreviated below: 'Informe General 1970'.

2. Press conference of Gen. A. Arrisueno C., 11 Dec., 1969.

3. Informe General 1970.

4. 'El Plan Inca', op. cit., item no. 19.

the Ministry of Education prior to the change of government and who then became the head of planning for the Ministry, a post he still holds.¹ Thus, the main point of contact between the Reform Commission and the Ministry, other than the Minister himself, was through the planning function. The problem of participation was particularly acute at the stage when the General Report was released and prior to the promulgation of the General Law. The approach chosen, whether deliberately or not, was 'conscientization'.

Beginning in October 1970, when the General Report was ready for release, and continuing into January 1971, the members of the Reform Commission held the first session of instruction for 'trainers' (*entrenadores*). This was a group of about 25 young men and women teachers, chosen because of their strong support of the revolutionary social aims of the government. In the atmosphere of enthusiasm surrounding the release of the General Report, their interest burgeoned into what can best be called revolutionary zeal.² Since the reform was based on a rigorous set of criticisms of the existing conditions, their mission of conscientization had important implications. When the trainers completed the course in January 1971 and left for different points in the country to organize meetings to familiarize teachers and the public with the aims of the reform, a point of no return was reached. With official backing, public opinion was being marshalled against the existing education system. In the sense of opinion formation, a revolutionary process was released, and the role assigned to the concept of participation in that process was primarily a role of implementation. This and the other characteristics of the process identified here are entirely consistent with the analysis made above of the general characteristics of the revolutionary process in Peru.

Designing the reform: revolutionary diagnosis and response

The General Report. The Education Reform Commission was a crucible in which the diverse ideological elements of the revolutionary process were fused into a single, homogeneous alloy. The analogy with a process of refining and treating metals by fire conveys the image of the revolutionary heat that was required to bring together diverse reform currents and integrate them into a single consistent plan of action -- the General Report of the Educational Reform Commission.

The General Report epitomizes the type of revolutionary planning style evident in the Inca Plan with its three main elements: diagnosis, response, action. That is, it first presents a diagnosis of the existing situation, defined in terms of a revolutionary philosophical stance, the general objectives to be pursued by the State in the area analysed, and, finally, outlines a series of policies and actions intended to implement them. Beyond this similarity of form with the Inca Plan, the content is consistent with the Inca Plan as a result of the complementarity referred to earlier -- the interdependence between the educational reform and other concurrent social changes.

However, the context of the two documents was so radically different that there were dissimilarities in the use made of them. Whereas the Inca Plan originated in clandestinity and was intended initially at least as a guide to revolutionary and high-level governmental decision making -- that is action requiring a minimum of publicity -- the General Report was intended as a means of broad popular communication. Its nearly 200 pages are a treatise intended to convince the reader of the reasons for change. The use of the report as an instrument of conscientization in the hands of the *entrenadores* constitutes a

1. Interview with Dr. Andres Cardo Franco, 5 Sept. 1975.

2. Interview with Dr. Mauricio San Martin Frayssinet and Prof. Wilfredo Huertes, 20 November 1972. The number of trainers subsequently rose to over 300.

fundamentally original element of the reform design in Peru. The true importance of the General Report derives from the fact that many of its provisions have been enacted and implemented faithfully down to the present time.

The revolutionary diagnosis. The opening pages of the General Report contained a serious indictment of the then existing state of Peruvian education. In this sense it was very similar -- despite the unusually strong language -- to other reports of commissions on education in various countries. The approach is distinctive, however, in that it goes beyond immediate criticisms of education to suggest deeper, underlying causes of malaise. While the present analysis of the accomplishments of the reform does not call for an examination of the negative comments addressed to the past, it is important, on the other hand, to understand the main rationale of the analysis and how the diagnosis of problems is placed within a framework of revolutionary ideology. The logical structure of this diagnosis will be demonstrated by examples of specific analyses.

The diagnosis, contained in Part I of the General Report under the title 'Doctrinary bases', begins with a brief reference to the revolutionary government and its policies. In other words, the reader is reminded of the fact that the context of political life -- and, therefore, of decisions on education -- has been modified by the change of regime: '... the policy and the educational action of a revolutionary regime must, in order to be authentic, reflect faithfully the essential character and nature of that regime... of a Government that has defined the conquest of structural change objectives as the justification of its own existence.'

The next step is to look at the education system in the light of its own internal operation and to identify major problems. The Reform Commission did not fail to point out the positive accomplishments of the previous period, particularly the quantitative expansion in the 1950's and sixties. But they then inject an element of critical realism regarding the level of inefficiency. They noted, for example, that the success rates of students entering the system remained low, even though progress had been made (in the 1950-60 decade about 4 per cent of those enrolled in the first year of elementary school completed secondary studies, a figure that rose to 12 per cent in the 1957-1967 decade); the generally low educational level of the population as a whole was hardly three years of completed studies despite an investment of 4.8 per cent of gross national product in education. These problems were traced in the report to a series of quantitative and qualitative deficiencies, such as neglect of children of poorer social classes, absence of a system of 'recuperation' (to provide for adults who had insufficient education in their earlier years), and 'rigidity, bureaucracy, routine'. (See Table 3 for major headings in the list of deficiencies.)

At this point, it should be remarked, the commentary shifts away from faults of the education system itself to focus on the relationship between educational activity and other aspects of social and cultural life. That is, instead of viewing education problems as originating primarily within the education system, the Reform Commission treated the problems as *symptoms*. The revolutionary diagnosis was that the underlying causes were more profound, that to deal with them it would be necessary to undertake structural changes affecting the whole fabric of social relationships -- structural changes of the type the revolutionary government had identified as necessary. The analysis of these structural relationships defies condensation or summary. A few extracts will convey at least the tenor of the arguments presented.

Education and culture. 'The global culture of Peru presents the characteristic traits of a culture of domination... Many observers have seen in Peru two practically parallel cultures: the culture of the dominated and the culture of the domi-

Table 3. Revolutionary criticism of traditional education

Sub-headings extracted from the chapter of the General Report¹ criticizing the education system as it existed at the end of the 1960's.

1. Growing illiteracy
2. Neglect of children from excluded (*marginados*) social groups
3. Absence of a system of recuperation (for dropouts and other persons not educated sufficiently by the previous system)
4. Education at the service of a minority
5. Disconnectedness from reality
6. Lack of Peruvian spirit
7. Intellectualism, memorization, academicizing tendency
8. Inadequate training and selection of teachers
9. Rigidity, bureaucratism, routine
10. Administrative and financial distortion

1. Comisión de Reforma de la Educación. *Reforma de la Educación Peruana. Informe General*. Lima, MINEDUC, 1970, p. 15-21.

nators... Education, an instrument of endo-acculturation by anotonomasia, has been until now the privilege of the dominator groups and has contributed to the Peruvian cultural disintegration.'

Community participation in education. 'A new Peruvian education should foster and foment the participation of the community in education, laying the foundation for parents, workers and other groups in the community to show interest in the educational process and intervene actively in the functioning of the schools, even participating in the election of the heads of the school... The curriculum should seek at all times a connexion with the social and economic reality of the country, either through preparation for work or through the service of students through civic and social projects of the community... A true social mobilization is indispensable to achieve fully the objectives of the new education.'

Education and schooling. 'It is necessary to overcome the conception of the educational process as exclusively [one of] schooling... it is necessary to use all the non-formal means of education available... Without negating the function and of the school, but rather by reinforcing and increasing its action, it is possible and opportune to begin the systematic process of out-of-school education.'

The revolutionary diagnosis implied a profound reconceptualizing of educational objectives in relationship to national and social goals.

The response. The Reform Commission's response to the problems diagnosed was to propose a set of general objectives for education. 'The reformed education has as its essential purpose the achievement of a new man within a new society.' (p. 45). The reform would pursue three new objectives:

Education for work and national development. Rejecting development for its own sake (*desarrollismo*), the pursuit of 'simple economic growth which only accentuates the unequal distribution of wealth' the commission evoked 'the humanistic principle of man as an end in himself... Within the perspective of structural reforms aimed at development, education for work means to create the conditions for the spiritual fulfilment of each person in the act of creating jointly with others a just society.'

Education for structural transformation of society. Whereas education had been viewed as a basis for transmitting the values, ideals and attitudes inherent in the established social order, the Reform Commission declared the necessity that 'this conservative function yield its place to another [function] of renewing the collective spirit and of preparation for the new society of the future.'

Education for the self-affirmation and independence of the Peruvian nation. The perpetuation of the social problems affecting Peru -- alienation, *marginación* and disintegration -- is attributed to 'powerful factors of external and internal domination.' Education should be, therefore, 'de-alienating and liberating and, consequently, affirmative of [our] own national personality'. The context of national self-affirmation is viewed, however, as implying co-operation with countries in the Andes region, in Latin America, and, more broadly, in all the Third World.

The response, as defined in the new set of objectives, was clear: educational reform was to be part of a general revolutionary process.

II. The scope of the reform

Hypotheses

The Peruvian educational reform must be viewed as a continuing, dynamic process. Its exact nature is hard to define in the present and is likely to change in the future. Its study can be reduced to a search for the answer to a single question suggested by the foregoing analysis of the origins of the reform: 'Given the redefinition of educational objectives set forth in the General Report, what are the results of using them in the Peruvian context to redesign the education system and, particularly, basic education?' The answer will reveal the interaction between idiosyncratic characteristics of national history and environment, the context of revolutionary social change, and the specifics of solving day-to-day educational problems.

The division of the topic into three components – scope, infrastructure and process – will allow the examination of three sets of hypotheses; these are structured so as to state a general rule, and then to apply it to the Peruvian context.

Scope. The scope of a reform reflects its context. In a revolutionary context this implies a rethinking of education in all its aspects. In Peru the reform shows an extraordinary breadth of scope, a logical completeness of conceptualization only possible in an environment where, it is assumed, society is to be redesigned.

Infrastructure. Reforming education in any broad sense requires that the institutional infrastructure be changed in proportion to the scope of the reform. In the context of the Peruvian reform touching all aspects of education, the infrastructure changes foreshadowed in the reform plans involve original approaches to institutional change, some of which are 'in advance' of 'developed' countries.

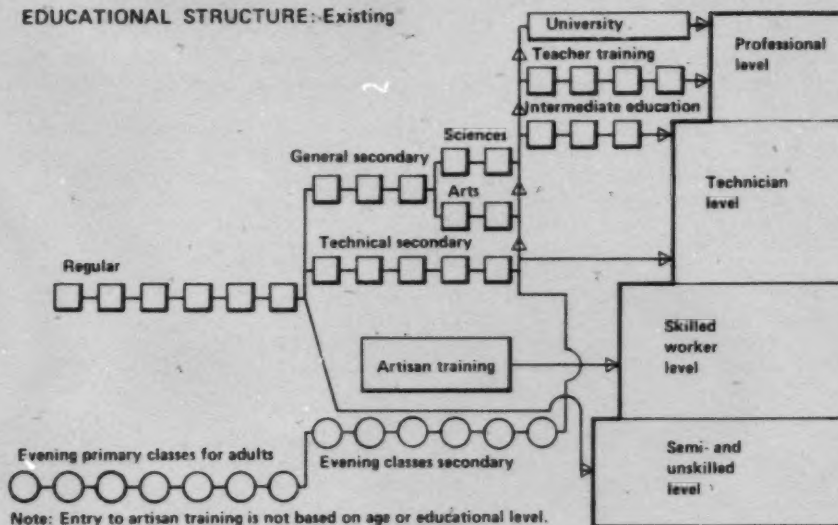
Process. The processes of educational change reflect certain constants of sequence, format and pacing that are probably universal – even though they are drastically modified in response to specific national situations. The variety of objectives for a reform should be reflected in the choice of strategies. Because of its breadth of scope and the choice of infrastructure alternatives, the Peruvian reform offers an opportunity to study a very rich blend of change patterns seldom encountered simultaneously in one national setting.

Overview

Since education is a process rather than a structure, it is hard to grasp the content of a reform by examining the framework of the education system, the grouping of grades and types of schools into a sequential pattern. Although we begin now by a brief look at these structural aspects of the Peruvian reform, we should recall that grouping persons for instruction is only the first step in education. Similarly, changing structures is only the first step in educational reform, if it is to be more than relabelling what exists without changing its content.

Figure 1. Existing and proposed educational structure

EDUCATIONAL STRUCTURE: Existing



EDUCATIONAL STRUCTURE: Reform proposals

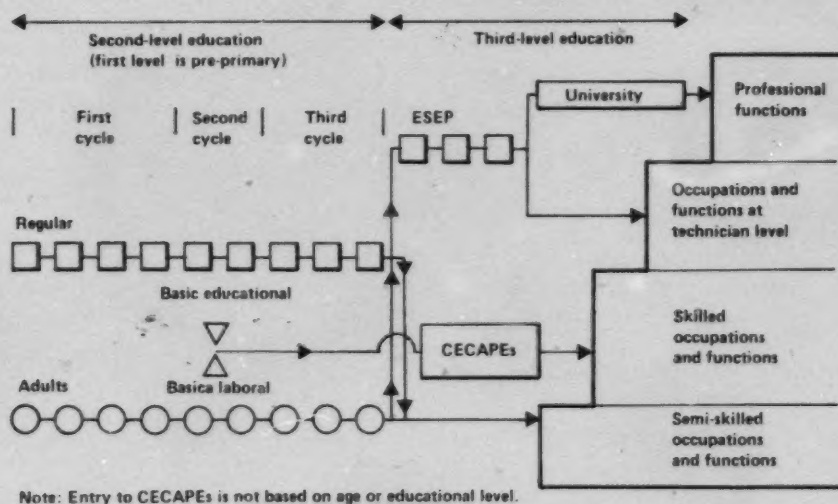


Figure 1 summarizes the major structural changes intended by the reform and shows the traditional and reformed systems together for purposes of comparison. The major apparent difference is the disappearance of what was called secondary education; the old secondary education, divided into technical and general (with further division of the latter into branches for sciences and arts) is, so to speak, split in two. The first grades of secondary education are regrouped with elementary school to form the system of Regular Basic Education. The latter grades are completely regrouped, along with certain portions of the university, into 'higher schools of vocational education' (*escuelas superiores de educación profesional*), or ESEPs, intended to provide a level of qualification suitable for professional activities in diverse sectors of the economy -- teaching, technical trades, commerce and so on. The second major structural difference is that the earlier system of adult education in night school (*cursos vespertinos*), divided into primary and secondary, is regrouped into a separate system of basic education for work (*educación básica laboral*) leading directly to the same vocational schools, the ESEPs. In other words, both systems lead to the university and, as regards general structures, there is no 'second-class' route to the university. At the university level, too, there is considerable simplification; some specialities of training are to be regrouped in the ESEPs, others integrated into the main stream of university education. Finally, for areas not served either by the ESEPs or the university, primarily for skilled and semi-skilled labour, specialized training centres/CECAPES (*centros de calificación profesional extraordinaria*) are to be created; entry to them is not to be based upon any particular set of prerequisites, such as completing a given year of basic education or having a certain age (though specific programmes may have variable entry requirements).

These gross structural changes are the background to an analysis of the reform. According to the hypotheses stated, the Peruvian reform should be extraordinarily broad. This may be assessed using the Dalin typology outlined in the introduction to examine the main texts of the reform -- the General Law, along with numerous complementary laws, regulations, curricular guidelines and other documentary sources. (For a listing of relevant legislation, see the report of the Peruvian Delegation to the 35th session of the International Conference on Education).¹

Category I: objectives and functions

This category refers to innovations in the objectives and functions of education in its broader social and economic context. In the Peruvian situation, one can distinguish four different levels of generality in the redefinition of educational objectives and functions. Proceeding from the more general to the more specific, they are:

(a) *Redefining objectives and functions of the education system as a whole.* The section on the origins of the reform has described this general redefinition, which can be summarized under the three topics:

- Education for work and national development,
- Education for structural transformation of society,
- Education for the self-affirmation and independence of the Peruvian nation.

At this level, the objectives and functions are formulated in such a way as to make them compatible with the general aims of the revolution.

1. *Desarrollo de la educación Peruana 1973-1975. Informe a la 35a reunión de la Conferencia Internacional de Educación, Ginebra.* Lima, Oficina Sectorial de Planificación, MINEDUC, September 1975, p. 56-69.

(b) *Redefining objectives and functions of a portion of the system.* The decision to set up a system of 'basic education' represented a major break with previous traditions. Its implications can best be understood by reviewing the useful analysis of basic education prepared in 1974 by a panel of international experts meeting at the Unesco Headquarters in Paris.¹ As mentioned earlier, the panel defined basic education as 'the first phase of the educational process within the perspective of continuing education.' The origins of the concept were traced to a need felt in many countries to break with earlier systems that were characterized by the superposition of different levels of education. These levels ordinarily had originated in different periods and were, therefore, independent of one another and centred around themselves; they had different objectives and served distinct social classes. Academic or 'general' education was more prestigious than technical or vocational education. The changes in this pattern, according to the report, were due to two major factors. The general push towards democratization of education resulted in increasing pressure to remove inequalities and to provide a diversity of educational experiences suited to the needs of different groups and individuals, including those suffering from social disadvantages. The so-called knowledge explosion made it necessary to extend the duration of schooling and, indeed, to recognize that acquiring knowledge was a lifelong process of a continuing nature. Thus, the concept of basic education originated as a means of describing an educational experience, of variable duration according to circumstances, which prepared the individual to take advantage both of lifelong learning opportunities and of work experiences.

Although the panel noted variations in applications of the concept in different national circumstances, they were able to identify numerous similarities. The most important was the perspective of lifelong education. This perspective made it necessary to extend the concept in two dimensions – first, in that it should obviously be made available to adults as well as the usual 'school-age' population and, secondly, in that it need not be carried out solely in the school environment. That is, non-formal methods may serve basic education, just as schools can. Similarly, the school itself should be more closely linked to the surrounding society.

Since the panel included representation from Peru, it is not surprising that their report reflects very accurately much of the Peruvian experience. What is perhaps not evident, and deserves to be emphasized here, is that the Peruvian implementation of the concept, as defined in the General Law, is rigorous and logical; since the General Law reforms the whole of the education system within a single framework, the concept of basic education spills over and affects other parts of the system. Very rarely is one likely to encounter such a theoretically coherent statement of new objectives and functions of education based upon the concept. This coherence, which in fact carries over into every aspect of education in the reformed system, is illustrated by the instances set out below.

- The definition of the new sequential level of education, the ESEPs, with a set of goals and activities that, through their relationship with preparation for the world of work, are a logical extension of the concept of basic education.
- Recognition of informal education, under the name of 'educational extension', as a specific concern of the State, on an equal legal basis with formal education, provides a means of implementing the concept of continuing education underlying the idea of basic education.

1. *Reunión de expertos sobre el ciclo de educación básica, Informe final, op. cit.*

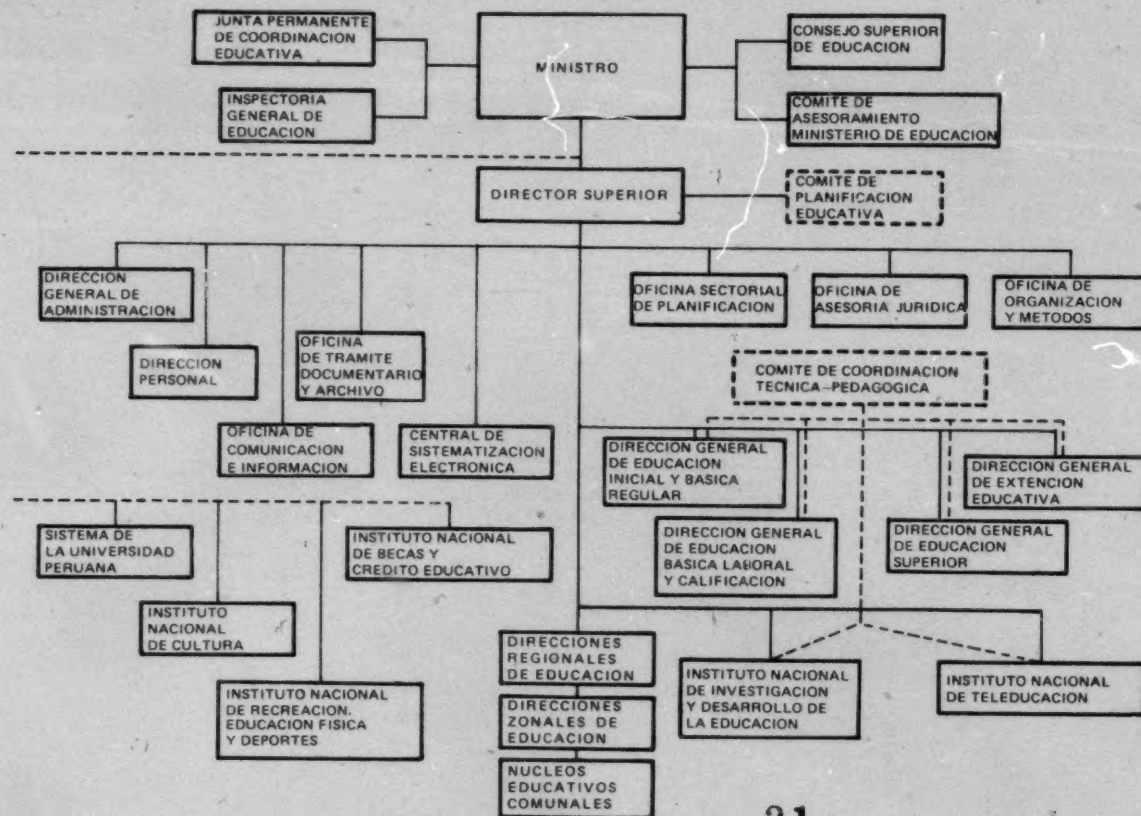
- The creation of a separate sub-system of basic education intended for adults, Basic Education for Work, applies the concept of continuing education to basic education itself - recognizing institutionally that basic education can serve different purposes at different points in a person's development.
- The definition of Initial Education as a prior part of the educational process recognizes explicitly that experience in the years between the birth and the beginning of school attendance determines in large measure the success that can be obtained in basic education; provision of assistance in these formative years is a means of reinforcing the basic education concept.

(c) *Redefining the social and cultural function of educational content.* The revolutionary diagnosis in the General Report emphasized the degree to which the previous education system served an alienating function, in the sense that it tended to reinforce the existing class system by promoting a hierarchy of élites: at the bottom of the scale was the Indian whose culture, by its very alienation from the education system, isolated him from the life of the nation. These problems were traced to the content of the traditional education system which emphasized the value of academic learning to the detriment of instruction oriented toward work, particularly manual work; and, in the special case of the Indian, the emphasis on the traditional disciplines in school was made even more alienating by the fact that the whole language of instruction was a denial of his cultural heritage. Although the General Report and the General Law both contain eloquent statements of principle condemning the previous system, the only valid reform of objectives and functions with regard to such matters has to be structural, rather than at the level of legal texts. For the present we should note two major structural shifts that, better than any abstract statement of intentions, confirm that a true redefinition of objectives has occurred. First, there are the structural changes related to the role of work in the curriculum. The creation of a unified parallel adult education system for the basic years combined with the new ESEPs, in which all types of instruction will be brought under one roof, represents a major departure from the separation of classes and the separation of academically oriented from work-oriented learning. Secondly, the decision to encourage the use of Indian languages, already a brave departure from tradition, has been reinforced by various measures. The most important, in legal terms, was the recognition of Quechua as an official language of the Republic, by a decree of May 1975.¹ In practical terms, the effectiveness of such a decision, with respect to actual instruction, is dependent upon a major shift in relations between the schools and their surrounding communities. This brings us to the last of the four levels of redefinition of educational objectives and functions.

(d) *Redefining the goals and objectives of the school in relation to its surrounding community.* The General Law totally recognizes the system of governance for initial and basic education through the creation of so-called 'Communal Educational Nuclei'. Within a given town or district a new structure of public participation in control of the education system is set up. A communal council is responsible for advising the director of the NEC on all matters related to its organization. The purpose of this new structure is to reinforce the links between the schools and the surrounding community; the reorganization emphasizes greater local control of education, a *de facto* change of the goals and objectives of the schools in the broader sense.

1. Decreto Ley 21156, 27 May 1975.

Figure 2. Administrative Structure, Ministry of Education (reformed)



Category 2: organization and administration

Organizational and administrative changes related to the governance of education pose particularly difficult problems of analysis. In a normal education system undergoing little in the way of reform, administrative changes are quite frequent; in a system undergoing reform, as efforts are made to adapt to new circumstances, even more numerous changes are likely, many of them of a passing or temporary character. Among all the numerous changes in administrative and organizational procedure and structure, what distinguishes those which truly constitute innovations? Two criteria appear to be useful. First, no account should be taken of changes involving the simple displacement of individuals if the functions they vacate are not changed; similarly, the renaming of functions (or organizational units) without change of content cannot be considered. Secondly, the change should have as its objective the accomplishment of some goal that, independently of the change, constitutes an innovation in an educational sense; this excludes innovations resulting in simple increases in organizational efficiency measured in financial terms, even though such changes are both necessary and important. Generally speaking, the creation of a new institution fulfilling an educational purpose constitutes an organizational and administrative innovation of the type under consideration here.

Using these simple criteria, one can immediately identify three major sets of administrative and organizational changes which constitute important innovations because of their potential impact on educational operations.

(a) *Administrative decentralization.* One of the major criticisms put forward in the Inca Plan and the General Report was that the education system was made rigid by excessive bureaucracy and centralization. Under the educational reform, the country has been divided up into nine regions and, within the regions, 28 zones. These regions and zones are being equipped with their own technical staffs as a means of giving them more control over activities in their respective jurisdictions. Conversely, the functions of the central organs of the Ministry of Education in Lima have been reduced; in addition to overall financial control, the central administration is responsible for providing general directives which are then interpreted and executed at lower levels. Only two organisms of a central nature remain with direct operational functions, the *Instituto Nacional de Investigación y Desarrollo de la Educación* (INIDE: National Institute of Educational Research and Development) and the *Instituto Nacional de Teleeducación* (INTE: National Institute for Distance Education). Numerous specific problems remain to be solved in the structures of the regional and zonal offices of the Ministry, but the purpose of decentralization is the creation of a regional and zonal capacity to provide technical-pedagogical assistance to the lower levels; an estimate made in early 1974 noted approximately 500 professionals employed at the regional level and 1,500 at the zonal, primarily for the purposes of supervision and providing technical-pedagogical advice.¹ See Figure 2 for details of Ministry structure.

(b) *Creation of the 'Communal Educational Nuclei'.* The process of creating the NECs began in 1972 with the organization of 137 such centres; an additional 343 came into being in 1973-74; and a final 339 in 1975, bringing the total to 819. At the completion of the process, all basic and initial education in the country is administered through these new administrative organisms.² The structural characteristics of the NECs are indicative of the new educational objectives they are to pursue. The

1. Lyons, R.F. *The organization of primary school inspection in Peru*. Working Draft, Paris, International Institute for Educational Planning, 1974.

2. *Plan Bienal Sector Educación 1975-76*, op. cit. pp. 21-23.

central office of each NEC is housed in a large school, usually in a town; it serves as a base for providing centralized resources and support to smaller schools (particularly in remote regions), in terms both of administrative leadership and pedagogical advice. Technical-pedagogical teams, called *equipos de promoción educativa*, are constituted at the NECs; they usually consist of three or four specialists, one each for initial education, basic regular education, basic education for work and educational extension. This central 'nucleus' fulfils a double function, rationalizing the use of existing resources by more efficient co-ordination and, through the teams, upgrading the quality of education being provided.¹ The other major grouping of functions derives from the structure for participation through the Communal Educational Councils. The councils comprise from 10 to 20 members chosen in the following proportions: 40 per cent representing teachers in the NECs, 30 per cent parents of students, and 30 per cent diverse local institutions of a socio-cultural and professional nature. Participation is viewed not only as the means of making community wishes felt in the schools but also as the basis for mobilizing local activities to assist the work of the schools.² Although the councils function primarily in an advisory capacity, there is evidence that such participation can have real impact in the Peruvian environment. The NECs are based upon a model of rural nuclei which has been tried out in the country since the late 1940's; the nuclei were the means of extending schools into remote Indian areas and have been associated with what limited bilingualism was previously encouraged in education.³ Generalizing this indigenous model to the whole of the country, including the cities (though in a much modified form), represents both psychologically and organizationally a major innovation.

(c) *Establishing an infrastructure for planned educational renewal.* The reform of education has been accompanied by the creation of new institutions intended to facilitate the process of implementation. The most important of these, for the present, is undoubtedly the INIDE, an institution involved in research, curriculum development, teacher upgrading, and the conscientization activities of *entrenadores*. The general reorganization of functions within the Ministry of Education, particularly the strengthening of planning mechanisms, and the creation of other related institutions such as the *Instituto Nacional de Teleducación* (INTE), have definitely modified the system's capacity for long-term sustained changes. The development of this infrastructure is so important that it is analysed in detail in another section of this study (v p. 31 ff).

Category 3: roles and role relationships

As pointed out by Dalin in the formulation of his typology, innovations regarding roles and role relationships are closely related with those in organization and administration; the objective of such innovations, however, is to improve not techniques and procedures but rather the roles which individuals perform and the relationships between individuals and groups.⁴ Study of role changes is highly problematical. Research on innovation indicates that the process by which individuals and groups change

1. For operational details see: *Manual para el diagnóstico situacional del NEC*. Lima, INIDE, MINE-DUC 1975.

2. LGE, Art. 64-77.

3. Baum, J.A. *Estudio sobre la educación rural en el Perú: los núcleos escolares campesinos*. Mexico, Centro Regional de Ayuda Técnica - Agencia para el Desarrollo Internacional (AID), 1967.

4. OECD, op. cit., p. 40.

their behaviour is that which, among different types of innovations, requires the longest time.¹ In fact, role changes are hard to deal with in any objective sense, for they involve the interaction between more than one person, and each individual, by definition, has a different perception of what the relationship is. Our approach to this is through the study of intended role changes that are, so to speak, 'built into' other portions of the innovation process. Obviously, every structural change implies changes in individual behaviour; in the reform, two sets of role changes are fundamental: at the general level, a shift in relationships between educators and educated, and, at the specific level, a shift in the roles assigned to the teaching profession.

(a) *Change in relationships between educators and educated.* The whole reform is postulated upon the belief that the education system should play a different role in society. These changed objectives and expectations, studied under Category 1, have been translated into various structural changes, summarized as innovations of Category 2. Taken together, these reforms imply that a radical shift should occur in the relationship of educators to those they educate. The potential community of learners has been defined, through the concept of continuing education, to include the entire population. Through participatory mechanisms the community and its representatives are to have a role in guiding the implementation of educational policy at the local level; mechanisms such as the work of *entrenadores* and the retraining activities of INIDE have been set up to facilitate the change in teachers' roles; and the use of mass media through the concept of educational extension, is intended to have a direct impact upon the population. The cumulative effect of this should be to change the psychological environment in which learning goes on.

(b) *Change in objectives assigned to the teaching profession.* Most of the role changes affecting the teaching profession are by-products of structural changes of the system, rather than consequences of some specific article of the General Law that might have redefined the teacher's tasks. The preamble to the law, together with other portions of the reform, makes it possible to summarize some of the major new expectations for teachers; upon the fulfilment of these expectations will depend the success of the reform.

The teacher is expected to be the channel for translating into practice the whole new philosophy of education, intended to develop 'a new man within a new society.'

Administrative decentralization, reduction of bureaucratic rigidity, better training opportunities and greater community participation should lead teachers to adapt their teaching to the social environment and the specific needs of pupils.

The creation of the Communal Education Councils, with strong representation of teachers, is intended to foster direct involvement of teachers in the decisions affecting their professional lives.

The adoption of the concept of continuing education creates the situation in which educators are expected throughout their professional careers to remain learners, participants in a learning process comparable to that of their own students and sharing in the same concerns.

1. Huberman, op. cit., p. 9-12.

Figure 3. Comparison of two systems of basic education

BASICA REGULAR		III CICLO	NIVEL SUPERIOR	
DOCTORADO				
UNIVERSIDAD INAE				
MAESTRIA UNIVERSIDAD	OTRAS ESCUELAS	II CICLO	NIVEL SUPERIOR	
LICENCIATURA (duración diversa)			NIVEL SUPERIOR	
ESEP (BACHILLERATO)		I CICLO	15 años (Aproximadamente)	
9 GRADO	III CICLO		NIVEL BASICO	
8 GRADO				
7 GRADO				
6 GRADO	II CICLO			
5 GRADO				
4 GRADO	I CICLO			
3 GRADO				
2 GRADO				
1 GRADO				
JARDIN	NIVEL INICIAL		6 años(Preferentemente)	
CUNA			3 años	
			0 años	

BASICA LABORAL		III CICLO	NIVEL SUPERIOR	
DOCTORADO				
UNIVERSIDAD INAE				
MAESTRIA UNIVERSIDAD	OTRAS ESCUELAS	II CICLO	NIVEL SUPERIOR	
LICENCIATURA (duración diversa)			NIVEL SUPERIOR	
ESEP (BACHILLERATO)		I CICLO	NIVEL BASICO (preferentemente a partir de los 15 años)	
9 GRADO	III CICLO			
8 GRADO				
7 GRADO				
6 GRADO	II CICLO			
5 GRADO				
4 GRADO	I CICLO			
3 GRADO				
2 GRADO				
1 GRADO				

The requirement that all teachers study an Indian language in their training presupposes that they will acquire a new appreciation of the role of the Indian population in Peruvian culture, thereby changing the underlying class and cultural biases formerly found in their teaching.

The strengthening of the renewal infrastructure, leading to a greater professionalization of Ministry officials and a decrease in their 'fault-finding' functions (*fiscalización*), should lead to a better relationship between teachers and administrators.

Category 4: curriculum

In describing a curriculum reform as complex as that underway in Peru, the use of the typology proposed by Marklund (cf. section on Organization and administration, p. 24 ff) has two advantages. First, its comprehensiveness provides a basis for assessing the completeness of a given reform. Secondly, it sub-divides the topic into clear operational aspects, thereby avoiding the confusion that so often results from the variety of philosophical connotations attached to the term 'curriculum'. At this point it may be as well to recall that the present study is concerned with the intended scope of the reform when it is completed, not with current status of implementation.

Level 1: External structure of the school (number of grades, stages, course of studies). The new configurations of basic education are summarized in Figure 3. The major characteristics are set out below.

- (i) A separate course of studies, Basic Education for Work, adapted to the needs of adult learners, has been created parallel to Regular Basic Education.
- (ii) The two systems of basic education have been designed as coherent entities; the resulting structures possess internal logical consistency of objectives and approach.
- (iii) The 'cycles' within each system are designed to correspond to specific needs of the learners. For example, the two-year Cycle 1 of Basic Education for Work -- corresponding to development of functional literacy and basic living skills for adults¹ -- may be contrasted with the four-year Cycle I for children, based on the normal growth and socialization patterns usually found in 'primary' schools. (In each case, the criteria are, of course, more complex than those listed here).
- (iv) In a country where dropping out is very common, the assigned cycle objectives are intended, as far as possible, to have a certain internal consistency, so that each represents a different stage in preparedness for life, constituting logical points for departure and re-entry.
- (v) Each full programme, consisting of all cycles, is intended to provide broad, adequate preparation for life and work in occupations not requiring specialized training.

Although not shown in Figure 3, the two main systems of basic education are complemented by other educational activities: a programme of adult literacy training is being pursued actively; informal and out-of-school education is to be fostered independently of these structures of basic education; initial education programmes are being expanded, particularly among the poor, to provide a base for entry to the system.

1. *Curriculum de Educación Básica Laboral, Ciclos I y II. (Documento de Trabajo)*. Lima, MINE-DUC, 1972.

Level 2: Timetables and syllabuses (aims and contents of subjects or groups of subjects). The entire set of objectives for basic education is being revised; in fact, a major portion of the task has been completed as far as Regular Basic Education is concerned. The revision takes two forms: 'adapted programmes', and 'reformed programmes' for schools and grades fully incorporated into the reformed system. The adapted programmes include some of the new curricular ideas of the reform but are conceived so that they can be used in existing organizational structures without disrupting them. In fact, the variety of programmes is greater than this would indicate, as there are reformed programmes for Basic Education for Work, special programmes for one-teacher elementary schools and -- not yet completed -- programmes for native language schools.

The reforms of syllabuses are thorough and represent drastic changes from previous patterns. A few examples should make this clear.

- (i) New mathematics have been introduced in all programmes to replace traditional arithmetic.
- (ii) The language arts (*lenguaje*) portion of the first cycle of Regular Basic Education emphasizes the use in the classroom of the children's regional dialect variants rather than 'academic' Spanish.¹
- (iii) For one-room schools this approach is extended by encouraging the teacher to form bilingual sub-groups of children who cannot speak Spanish well; these groups are not to be made to appear inferior and their cultural traditions are to be given due attention.²
- (iv) Instruction in the social sciences is oriented around the 'concept of conscientization', emphasizing racial, class and sexual equality and fostering respect for the goals of the revolution.³

In summary, no subject matter in the curriculum is being left unchanged, and all grade levels will eventually be touched. Curriculum guidelines, or programmes, are issued in the form of detailed lists of objectives, combined with suggested activities; accompanying methodological guides provide detailed suggestions to aid the teacher in daily lesson planning.

Level 3: Instructional methods and resources (teachers' instructional method, pupils' way of working, educational materials, study material and forms of evaluation). The radical curriculum changes at levels 1 and 2 require corresponding changes in classroom activities. At this level, however, success depends entirely upon the teacher's ability to carry out the intentions of the designers of the curriculum reform. The present analysis cannot demonstrate that such changes have occurred; rather, it can point out the major orientations given for classroom activities and the types of support materials being developed.

- (i) At the level of NECs, emphasis is being placed on teacher-organized 'situation diagnoses'. With guidelines from a specially prepared and pre-tested manual, teacher teams are to do a careful study of the social, economic, and

1. Curriculum de Educación Básica Regular - 1er Ciclo. Lima, Dirección General de Educación Inicial y Básica Regular, MINEDUC, 1974, p. 23-24.

2. *Guía Metodológica para Escuelas Unitarias*. Lima, Dirección General de Educación Inicial y Básica, 1974, p. 13-14.

3. cf. *Fichas de ciencias histórico-sociales, tercer grado*. Lima, INIDE, MINEDUC, [n.d.]; *Guía metodológica de las fichas de ciencias histórico-sociales, tercer grado, educación básica regular*. Lima, MINEDUC, 1974.

geographic environment of each NEC. Methodology guidelines for teachers stress that in this diagnosis process the teachers should identify motivating themes as an aid to structuring their lessons.¹

- (ii) The new curriculum objectives frequently require major shifts in teaching method. For example, reading instruction is to be based on a global approach (global method of structural analysis) rather than on more traditional methods of syllable-by-syllable reading. The teaching of new mathematics concepts such as classification are dependent upon the children's being free to manipulate objects and to participate actively in classroom activities, a fundamental break with lecture-style teaching of arithmetic. The social studies curriculum presupposes that children will discuss topics in small groups, carry out group projects and so on, again an important departure from intact class teaching methods.²
- (iii) A massive programme, co-ordinated by the central normative organs of the Ministry, with strong participation by INIDE, is producing large numbers of new textbooks and teaching materials adapted to the new programmes. Difficulties have been encountered in production and distribution, but the new texts are being produced in large numbers. They represent a major improvement over existing texts, both as regards format and suitability for the children using them. The imaginative adaptation of traditional folk painting styles for illustration gives some of the texts an attractive colourfulness of sometimes outstanding artistic quality.
- (iv) The system of grade-to-grade promotion is to be replaced by movement of individuals from group to group. For one-room schools, there are generally two or more grade levels per group. This flexible approach is intended to eliminate completely the concept of repeating grades.

Summary and conclusion

The preceding description of curriculum provides an interesting perspective from which to view the total scope of the educational reform. In only a few sentences we have referred to *examples* of curriculum change -- such as the introduction of modern mathematics and the shift to a global approach to reading -- *each of which would represent in many countries a major innovation*. Yet, in the Peruvian context, they are only parts of a much larger pattern of innovation.

Consideration of the total picture of possible changes within Dalin's typology of innovations and Marlund's levels for curriculum does not show a single 'empty' category. The Peruvian reform includes every type of educational innovation and the form of each change frequently represents the most drastic type of break with the past. The data thus confirm the hypothesis that the reform has 'a logical completeness of conceptualization only possible in an environment where, it is assumed, society is to be redesigned.'

1. *Manual para el diagnóstico situacional del NEC*, op. cit.; *Curriculum para escuelas unitarias -- Ciclo I: Fases I y II*. Lima, Dirección General de Educación Inicial y Básica Regular, MINEDUC, 1974, p. 289-92.

2. cf. *Guía Metodológica para escuelas unitarias*, op. cit.

III. Creation of an infrastructure for educational renewal

The need for an institutional infrastructure for educational renewal

The very scope of the reform is so great that the observer must ask if there is any hope of carrying out all or even a portion of it. At this time it appears that the answers depend on three factors. The first is the extent to which the government succeeds in realizing its general social reform goals; secondly, the effectiveness of the changes carried out in the institutional infrastructure of education; and, thirdly, the extent to which the human elements of the system can adapt to change, given the nature of the different change processes underway. The first set of considerations lies outside the purview of this study; the change processes themselves will be analysed in the next section; at this point, it will be useful to examine the infrastructure reform.

The elements of the institutional infrastructure can be perceived to fall into three large functional categories:

- traditional elements:
 - (a) participation and decision making;
 - (b) execution and implementation;
- non-traditional elements:
 - (c) planned renewal and innovation.

The distinction between the two types of functions classed as 'traditional' is generally clear, even though some institutional elements and persons perform multiple functions. For example, in a typical parliamentary system with a centralized ministry of education, the mechanisms for (a) participation and decision making are ordinarily the electoral system of the parliament, the ministers of the cabinet and, where such decentralization exists, local councils or boards of education; the execution and implementation of decisions (b) is carried out by civil servants in the ministry and by teachers in the schools. In the Peruvian situation, the distinction is equally clear. A document from the Ministry of Education describes the elements of the planning process in the following terms. It is necessary to have:

'A system fed from two directions: a first [direction], coming from the hierarchical levels of the high authorities, through policy orientations; and a second which comes from the organs at the base, which participate in the programming, do implementation and furnish the necessary elements that make possible efficient educational action. It is the intermediate levels which are charged with harmonizing and integrating the flows coming from both directions.'

Thus, the powers of central decision making reside with the Revolutionary Government; at the local level, the NECs with their Communal Educational Councils are the organs of participation in decision making. Between these two sets of inputs, the Ministry with its central, regional and zonal offices and the local employees of the schools constitute (b), the apparatus whose responsibility is implementing and executing policy.

1. *La planificación de los sectores sociales: la experiencia educacional*. Lima, OSPE, MINEDUC, 1975. p. 16-17.

Most reforms of institutions are involved in shifting these two 'traditional' elements. Laws are passed and regulations are issued through the authority of (a), the decision making structures; then the body of civil servants and teachers (b) is expected to change in response. In such a scheme of reform, the education system is seen as having two states -- one preceding the decision on a new policy, the other following it.

This legal-administrative approach to change, present in most reforms of the past, has proved to be insufficient for many purposes. In general, the effects on teaching/learning behaviour (as well as on the actions of educational administrators) are either limited or subject to considerable delay and uncertainty. In terms of the Marklund typology of curriculum, legal-administrative approaches can usually control levels 1 and 2, but level 3 remains impervious to regulations and directives. The author has argued elsewhere that the problem is systemic.¹ The necessary division of responsibility between individuals and institutions imposes limits on change. All elements of the education system are constrained by these limits. Teacher-led innovation is as difficult as legal-administrative change because the teacher operates only at level 3 and is impeded by legal constraints at levels 1 and 2 from making fundamental changes in teaching strategy. To take a simple example, excusing older secondary school students from classes for a week to do field research on social problems might be a very productive approach for a given course of study; nevertheless, most education systems today have rules which would make this extremely difficult, if not impossible.

While there is no panacea for solving systemic problems of this type, two approaches hold promise for improvement:

(a) Fundamental reforms require change to be conceived at all three levels in the Marklund typology and then implemented on a co-ordinated basis so that one level does not interfere with the other. In other words, coherence of design is essential for fundamental reform.

(b) Fundamental reform should go beyond restructuring the 'traditional' elements of the system. *It is necessary to conceive of change as a permanent function of the education system and to design new infrastructure elements to foster change on a long-term basis.* In this way, legal-administrative changes -- a necessary component of most change patterns -- can be sustained and carried into practice during the period of time necessary for individual persons gradually to shift roles and adopt new patterns of behaviour in a reformed system. We have called such non-traditional arrangements '*institutions for planned renewal and innovation*'.

The Peruvian authorities have deliberately incorporated these two strategies into the educational reform and set up the infrastructure elements for planned renewal and innovation. With sustained effort and support, these elements hold the promise of carrying out the fundamental goals of the reform. Without such deliberate infrastructure changes, there is little likelihood that a reform of such scope could succeed; with them, there is a probability of accomplishing a large number of the goals.

Overview of the Peruvian Infrastructure Reform

The abstract quality of the term 'institutional infrastructure' tends to make one forget that it consists of human beings working at commonplace tasks. Thus, it may seem surprising that the base of the reform of the Peruvian educational infrastructure was probably a series of disciplinary measures taken to eradicate abuses in the administrative

1. Churchill, S. *Restructuring educational R and D in Ontario*, op. cit.

system. Immediately after assuming power, the Revolutionary Government began a campaign to reduce corruption, absenteeism and inefficiency. It is reported that the measures included removing some officials outright from their jobs; repairing deliberately broken timeclocks and making them tamperproof; and numbering offices in the Ministry of Education and listing the names of employees on office doors.

What do such measures have to do with educational reform? Probably everything. It is quite useless to talk about non-traditional institutional arrangements for renewal of education unless the traditional elements can be relied upon to perform at some minimum standard of efficiency. If instances of administrative abuse were as widespread as indicated by the governmental campaign, it is rather optimistic to assume that, even now, all have disappeared entirely. But there are clear indications to the outside observer that significant improvements have actually occurred.

For similar reasons, creation of an institutional infrastructure for educational renewal cannot be conceived of as some type of action separate from the general process of reforming the 'traditional' elements of educational institutions. There should be a co-ordinated approach so that changes at one level complement, rather than contradict, those at another. The two major reforms touching the traditional functions of administration -- decentralization of the Ministry and creation of the NECs -- are closely related to the creation of the renewal infrastructure. This is why the description of the infrastructure involves going back over some of the ground already covered.

The simplest way to visualize the renewal infrastructure is to begin with a set of major processes involved in educational change, such as curriculum reform. Then the persons and institutions that intervene in them are defined; all the different human and institutional elements that interact in a given process form what might be called a sub-system of the infrastructure. The following change-related processes have been given special emphasis in the design of the Peruvian reform:

- planning resource allocation;
- curriculum reform;
- in-service education of personnel;
- educational research and development;
- education through mass media.

In all except the last case, the processes are clearly related to problem-solving, i.e., improvement of the education system's capacity to carry them out raises its capacity to respond flexibly to new situations on a continuing basis. The objective is to provide for sustained renewal as an institutionalized function.

If the Peruvian experience is examined with a view to extracting from it an underlying philosophy of organization in institutionalizing the processes outlined above, it would be summarized under three principles: (i) a strong central impulse provides the general orientation of change; (ii) the responsibility for carrying out change is given to decentralized groups, whose main function is adaptation and implementation; (iii) the weakness of the system requires regular, central intervention to upgrade the capacities of the decentralized groups and, if necessary, to take direct action to overcome difficulties.

A final element of the over-all strategy was the decision to create central institutions, INIDE and INTE, to carry out activities requiring a high level of specialized expertise. In view of the crucial role of INIDE in all aspects of implementing the reform, the following brief section is devoted to discussing its functions before the way the different subsystems fit together is examined.

1. Paulston, *op. cit.*, p. 295-6.

The National Institute of Educational Research and Development: INIDE

The creation and subsequent development of the INIDE is one of the more important successes of the Peruvian educational reform. The institution grew out of a series of mergers that took place progressively between 1969 and 1972. The constitutive elements, which had worked separately in a highly bureaucratized atmosphere, included a Centre of Educational Research, a Centre for Teacher Further Education, an Institute of Teacher In-Service Education and a Centre for Educational Documentation. In addition, the Institute absorbed a major programme for improving science teaching, carried out with assistance from Unesco, and was made responsible for co-ordinating the activities of the *entrenadores*. The regular renaming of the organization responsible for research in the years immediately following the change of government tends to reflect the search for institutional role and identity. For example, the General Report of the Reform Commission was printed by what was then called (1970) the National Institute of Research and Teacher Further Education; the report itself referred to a future National Institute of Educational Research. The final name given the organism reflects a conceptualization of change that goes from research through development of educational aids to the final stage of development in the broad sense of improving practice through in-service education.

The outcome was of more than symbolic importance. There was great difficulty in resolving initial directions of action, and the name indicates clearly the characteristics of the resulting institution.

- INIDE has an integrated outlook on the change process including all its constitutive elements from research to development to implementation.
- Research in the empirical sense (rather than reflective research in line with national traditions) is retained as a part of the change process, providing an ethos of scientific objectivity as an inspiration for change.
- A product itself of the reform, the institution derives its mandate from the revolutionary process and conserves a leading role in the conscientization process through the *entrenadores*.

Had one been acquainted with the different institutions that were merged, it would have been hard to imagine the dynamism of the resulting institution only a few years later. Creating an effective research and development organization is a difficult business even in the most favourable of circumstances; to do so in the midst of a revolutionary situation, with very limited resources, is an extraordinary feat. It reflects both the dedication of the persons working in the Institute and a high level of government support to overcome difficulties.

From its foundation, INIDE has been viewed somewhat as a catalyst for the reform movement as a whole. Compared with an education system employing approximately 120,000 teachers, it is not particularly large. In the 1975-76 plan the Institute was authorized to maintain a staff of slightly more than 600 (302 permanent staff members, 156 staff in the science teaching improvement programme and 150 under contract).¹ It remained responsible for co-ordinating and stimulating the work of the *entrenadores* working on a decentralized basis in the regions; their number was estimated at some 322 in 1974.² Given that many staff members are in non-professional roles, the ratio be-

1. *INIDE. Plan operativo 1975*. Lima, INIDE, MINEDUC, 1975. p. 34-36.

2. *INIDE. Plan operativo 1974*. Lima, INIDE, MINEDUC, 1974. p. 46; Ministerial directives no. 1. ME/COSUP/INIDE-75 and no. 2 ME/COSUP/INIDE 75, 9 January 1975.

tween Institute staff and potential clientele is approximately in the range 1:1400-1900. This numerical relationship excludes, as a means of educational change, direct local involvement in educational problems. For this reason, the Institute has been obliged over the years to seek different mechanisms for multiplying its efforts and distributing them over a wide area. Thus, it has had to face the fundamental option between centralization and decentralization. The solution represents something of a working compromise. The INIDE is officially, along with INTE, a 'non-regionalized organ of execution' of the Ministry; all other organs of execution (of policy) are 'regionalized' in the regions and zones.¹ As such, it maintains central offices in Lima, where it recently moved into new, specially built quarters. The majority of permanent and contractual staff are based in Lima; those working on the science teaching improvement programme are a partial exception in that many of them are assigned to regional training and laboratory units being created throughout the country.

The problem of dealing with a decentralized clientele is resolved primarily through the organization of activities rather than the allocation of personnel to other parts of the country. How this is done will be clear from an examination of the functional organization of INIDE.

INIDE is organized according to two principles: (i) organizational units are centred around major problem areas without division into academic disciplines; (ii) activities are organized on a project-by-project basis with flexible staffing, teams being constituted for the duration of a given project, and budgets being established by project rather than by department.² The Institute is organized, therefore, into four sub-directorates with responsibility for major functional programmes subdivided into projects: (a) retraining, in-service education and further education of teachers; (b) educational research; (c) educational documentation; and (d) publications and educational material. The last two functions are clearly central 'production' functions involving gathering bibliographical material useful for teachers (c), and publishing education material and textbooks (d). Their output can be sent via normal channels for distribution throughout the country. The educational research function (b) has developed a strategy involving selection of five prototype areas (*Alto Marañón, La Libertad, Pasco-Junin, Ayachucho* and *Puno*) representative of the regional differences in the country; within these, a series of projects with participation from local personnel are focusing on diagnostic and descriptive studies of regional problems. This appears to represent a reasonable approach, given the small numbers of available researchers and the necessity of providing research results useful over a diversity of geographic areas. The group of activities related to professional development of teachers (a) uses a variety of methods to overcome the problem of distance. Courses for specialists are frequently held in Lima, but a major portion of the work is carried out through training courses in regions and zones. Owing to the difficulty of taking teachers out of their classes for long periods or occupying their free time with residential courses, much use is made of correspondence courses both as a basic means of providing training and as a follow-up to short residential courses. The retraining work of the *entrenadores* has shifted in the last year from a system based upon long residential courses (five months) to one using repeated short periods of group instruction separated by relatively long periods of follow-up via mailed correspondence courses and consultation from trainers in nearby centres.³ In 1974, the last year for which detailed figures are available, different professional development activities of the INIDE touched a total of approximately 53,000 educators in

1. Decreto Ley No. 19602 Orgánico del Sector Educación, 8 November 1972, art. 42-43.

2. Churchill, S.; Furtado, A.; Lallez, R. Organisation et programme de l'INIDE: Rapport à l'Unesco, 1973.

3. Ministerial directive no. 1 ME/COSUP/INIDE-75, 9 January 1975.

one way or another (some persons involved in more than one course or training experience are counted more than once in the totals).¹

The very general nature of the objectives of the programme involves INIDE in almost every phase of the implementation of the reform. This summary of its modes of action provides a starting point for understanding the operation of the different renewal subsystems.

Major operational subsystems of the infrastructure for educational renewal

Planning resource allocation. The planning function within the Ministry of Education, it has become increasingly clear, is the most important single factor in the implementation of the reform. This is not surprising, given the extreme complexity of a total re-design of the education system. Without adequate planning cutting across all affected areas, there would be no hope of success. In this respect the new regime represents a definite break with past experience in planning, characterized by the preparation of disarticulated plans by multiple groups which did not consult each other; moreover, the plans themselves were generally ignored.² Three elements may thus be distinguished in the recent infrastructure development:

- (i) a firm political decision to use planning as an instrument of the reform; that is, plans are made and, as far as possible, they are implemented;
- (ii) an improvement in the methodologies used in planning, combined with an upgrading of personnel;
- (iii) the creation of a network of planning units throughout the Ministry of Education, all using the same methodologies and feeding consistent data into a co-ordinated network.

At present the planning network consists of the following operational levels:

- (i) the National Planning Institute is responsible for inter-sectoral co-ordination and approves ultimately the plan submitted by the Ministry of Education;
- (ii) the Sectoral Planning Office co-ordinates all planning activities in the field of education;
- (iii) every functional administrative unit of the Ministry of Education now has a specifically designated planning unit. This applies to central administrative organs in Lima (including INIDE and INTE), the regional and zonal offices, various 'decentralized' institutions such as the National Institute of Recreation, and even the NECs.

The radical innovation in structure is the creation of the planning units at all levels. Although the effectiveness of the units at the lower levels is sometimes impeded by lack of experience and trained personnel, the very process of carrying out planning activities provides its own mechanism for developing skills. As one moves down the hierarchical steps, the nature of planning concentrates progressively more upon the qualitative, rather than the quantitative, aspects of the programme. At the level of the NECs, the function is exercised by the *Equipos de Promoción Educativa*, that is, the small group of experts responsible for technical-pedagogical support. Beginning in 1973, that is, as soon as administrative decentralization had moved far enough, the financial and personnel budgeting process was decentralized; instead of budgets organized centrally

1. *INIDE Plan Operativo 1975*, op. cit.

2. Paulston, op. cit., p. 279-81.

by offices in Lima, each region has its own budget, subdivided by programmes. It is intended that the decentralization process will eventually give NECs responsibility for their own budgetary planning.¹

Curriculum reform: All the elements of the infrastructure for curriculum reform have been mentioned earlier in one way or another, though separately. At this point the coherence of the system may be noted.

- (i) Central 'rule-setting' (normative) organs. The Ministry in Lima has four General Directorates responsible for establishing technical-pedagogical (curriculum) policy, one for each of the main branches of the education system: Initial and Basic Education; Basic Education for Work and (Vocational) Qualification; Higher Education; and Educational Extension. Their responsibilities include setting rules for curriculum activities at lower levels, determining general educational objectives, preparing curriculum guidelines and establishing norms for evaluation.
- (ii) Non-regionalized organs of execution. Both INIDE and INTE carry out curriculum-related functions. INIDE plays a major role in preparing textbooks in conformity with the curriculum guidelines; INTE prepares programmes for radio and television broadcasts, and correspondence courses for all types of education, particularly Educational Extension. In addition, INIDE co-ordinates professional development related to curricular changes (see below for further description).
- (iii) Regionalized (regional and zonal) organs of execution. The nine regional offices of the Ministry have an Office of Regional Technical-Pedagogical Co-ordination; the zonal offices have equivalent Units of Technical-Pedagogical Co-ordination together with so-called Functional Units of *entrenadores*. The prime role of the regional offices appears to be interpreting central norms and providing general information on region-wide problems to the zonal units. These, in turn, are associated with activities in the NECs, providing direct assistance in organizing curriculum work, giving training on specialized topics, and so on. There is some differentiation of function within the zonal offices between the general technical-pedagogical staff and the *entrenadores*, the latter paying particular attention to the problems of conversion to the new system and to local participation in the NECs.
- (iv) Communal Educational Nuclei. Each NEC is intended to have its own team of experts. They constitute the front line, so to speak, providing assistance to the teacher. In addition to more usual forms of advice, the teams are expected to co-ordinate the 'situation diagnoses' in each NEC, to be carried out by teachers, in order to assist in adapting programmes to the specific needs of the district.

The coherence of the system provides what appears to be an excellent basis for deciding, interpreting, and implementing curricular change. The major foreseeable problems have to do with the inertia of established habits among the persons involved (bureaucratization being a danger at higher levels, indifference at the lower ones) and the general lack of specialized skills related to the new curricula.

In-service education of personnel. A system of in-service education is the natural complement of a system of curriculum reform; in fact, without such a system, curriculum reform would be very near impossible. Although a certain amount of assistance in the

1. *La Planificación de los Sectores Sociales: La Experiencia Educacional*, op. cit., p. 18.

task of in-service training is to be expected from INTE (joint INIDE-INTE programmes are being developed), the very mountainous nature of the country, together with the lack of technical infrastructure, reduces the effectiveness of broadcast media in the immediate future. Similarly, with the reform of the university still some years away and its potential effects being limited to new entrants to the teaching profession, the major impetus for retraining must come from within the education system. These factors have dictated the present key position occupied by INIDE. The infrastructure for in-service education, under the present strategy, is the same as that for curriculum reform.

At each level, the technical-pedagogical groups are responsible for providing assistance and training at the next level down. The function of INIDE in respect to each level is to analyse the specific skills for each level to be effective with regard to the next one down, then to design the appropriate training. A whole range of programmes is intended to provide specialist expertise at the regional and zonal levels. Only rather exceptionally do INIDE staff provide direct training at the NEC level. Where appropriate courses exist, NEC staff may be encouraged to study specific specialities by correspondence. Correspondence courses are available for fields such as principles of educational administration, principles of statistics, and the role of persons responsible for retraining at the level of regions, zones and NECs. Direct training programmes offered in 1975-76 covered areas such as educational technology, bilingual education, education through art, psychomotor education, and learning disabilities.

The in-service education infrastructure suffers from the inexperience of the educators at each level in their particular adult training tasks for the next level. The system is coherent, however, inasmuch as it coincides with the elements already described for the process of curriculum reform. Through the programmes of INIDE, there is clearly the hope that sufficient upgrading will occur to make the functioning of the process effective over the long term. A problem requiring measures in the future is the eventual linking of the universities to the task of in-service professional development.¹

Educational research and development. The designers of the reform felt very strongly the need to create a national capacity for educational research and development. They viewed this as a means both of stimulating the process of reform and of developing a national scientific capacity that would free Peru from foreign dependency in this vital area. The creation of INIDE resulted from these objectives together with a consciousness of the difficulty of relying upon the universities for solutions to pressing problems of the education system, at least in the short term.² At present, the institutional infrastructure and its range can be summarized as follows.

- (i) The universities lack a tradition of empirical research in education-related areas. Despite this, there have been various programmes to develop basic research capacity in certain institutions, such as the *Universidad Mayor de San Marcos* and the *Universidad Católica de Lima*. For the present, the university system can be relied upon for general contributions to the academic definition of rather broad social problems but not for institutionalized research and development. It should be noted, however, that university staff participate in research and development on education organized elsewhere than the university, e.g. through contract work with INIDE. Some

1. Lallez, R.; Fensham, P.J.; Kupisiewicz, C. *Pérou. Changements et innovations dans les institutions universitaires. Rapport sur une étude in situ*. Paris, Unesco et Association Internationale des Universités, 1975.

2. Personal statement to the author by the late Dr. Salazar Bondy.

smaller research institutions outside the universities, but enjoying the participation of university professors, have organized particularly important thematic studies of major problems, including education; one of the more significant examples of this would be the *Instituto de Estudios Peruanos*, whose organizers included some of the persons involved in designing the educational reform and whose research studies contributed to it.

- (ii) INIDE: The Institute constitutes the major centre for educational research and development at the present time. This work includes both systematic curriculum development and more general, conclusion-oriented research. Major emphasis has been placed upon the relationship between societal factors and education within a regional framework. Basic studies are underway with regard to language development of children, psychological effects of extreme poverty, and problems of working women, to name only a few. Through programmes of internal training and international fellowships, the Institute is developing a research staff with specialities in basic education-related disciplines.
- (iii) Sectoral Planning Office. Although planning offices are seldom considered as part of the research and development infrastructure, the Sectoral Planning Office has developed particular expertise in the analysis of economic aspects of education. Studies either underway or completed include aspects of demography, relationship of education to employment, and econometric modelling of the education system.²
- (iv) NECs. It is difficult to classify within ordinary schemes the efforts being made to develop a research capacity among teachers and technical-pedagogical teams of the NECs. As mentioned earlier, a basic strategy for curriculum adaptation is to have teachers participate in a 'situation diagnosis' for each NEC.³ Furthermore, basic concepts of educational research are being taught very seriously within the general programme of retraining.⁴ Given the level of formal education of the majority of teachers, this falls outside the scope of academic research of this type encountered in universities; on the other hand, the systematic approach to problem definition at the local level is certainly a part of a process of generalizing and applying scientific knowledge. The pursuit of current work in this direction will doubtless lead to the development of significant local capacity for various types of descriptive research, contributing both to efficient functioning of the curriculum development process and to the moulding of attitudes towards technical and scientific thought. In both respects, therefore, the activities at the NEC constitute an important addition to the research and development infrastructure of education.

The elements of research and development infrastructure described here are characterized by their relative newness as operational units with effective programmes of research. Their continued development and the likelihood of their contributing pro-

1. *Plan Operativo INIDE 1975*.

2. *Primer informe de evaluación del plan operativo OSPE 1975*. Unidad de Evaluación, Oficina Sectorial de Planificación, MINEDUC, May 1975.

3. *Manual para el Diagnóstico Situacional del NEC*, op. cit.

4. cf. the 97-page booklet included in a typical follow-up mailing for teachers involved in retraining: *Técnicas Auxiliares de Estudio: El Fichaje. Introducción a la Investigación Científica*. Lima, INIDE, MINEDUC, 1974.

ductively to the education system depend not only upon uninterrupted financial support over a period of several years but also upon their research being effectively used to solve important educational problems. The research teams at INIDE and the Sectoral Planning Office are strategically placed for playing such a role, and current indications are that the results of their work are taken into account.

Education through mass media. This portion of the renewal infrastructure is only now being developed more fully. The principal basis for such activity is to be the National Institute for Distance Education (INTE), which has a broad mandate to 'reinforce the educational process in the classroom; complement in-school education outside the classroom; extend and bring up to date the knowledge and experiences of the whole population, facilitating the processes of social promotion; and, when necessary, to make good in a direct manner the lack of teachers and classrooms.' The Institute is expected to use broadcast media, the press and mails to carry out its mission.¹ Meanwhile, its programming is severely hampered by lack of media infrastructure in the country. Despite these difficulties, regular publications are issued and some broadcasting work is carried out, particularly in the Lima area. In response to requests from INIDE, the Institute has taken steps to become more actively involved in joint programmes to assist in teacher retraining.² The newness and difficulty of the field of activities of INTE should not hide the fact that the organism is growing into a potentially powerful medium of educational change.

Conclusions

The sub-systems described above appear to constitute the beginning of a comprehensive institutional basis for long-term educational renewal, even though the infrastructure is new and lacks many of the trained specialist resources that might be desired. The infrastructure is characterized by the general coherence of its over-all design. The stress laid here upon the role of planning and research and development is relatively uncommon in most countries; combining these approaches with the conscientization activities of the *entrenadores* in a revolutionary environment is a very original Peruvian contribution, as is the encouragement of teacher-conducted research.

1. Decreto Supremo que reglamenta el Instituto Nacional de Teleducación, 15 June 1971.

2. *Segundo informe trimestral de 1975*, op. cit.

IV. Innovation processes: the Peruvian model of innovation

Accomplishments of the reform

The foregoing description of the Peruvian education reform gives the general impression that this may be one of the most complex educational reforms undertaken in a short time in any country. One senses in it a determination to find a means of accelerating the pace of educational and social change beyond the limits normally thought possible. The scope of the reform is defined in broad, almost utopian terms; a new set of institutions has been set up to bring about and hasten the accomplishment of the objectives. Two parallel sets of questions are raised by this description. Simple realism makes one ask whether anything is happening on so broad a scale. In the event of a positive answer to this question, one immediately has to ask: how is it coming about, under what circumstances, and in response to what types of innovation strategies? It will be as well to examine the first question before deciding how to begin analysing the second.

Indicators of progress. As stated in the Introduction, this study cannot claim to evaluate the educational reform. This is particularly true since the reform has the objective of making profound social and attitudinal changes of an obviously long-term nature. At best, accomplishment in this context should be considered with reference to *indicators* rather than to final proof that ultimate objectives have been reached; the fact that a process has been effectively started does not mean that it can be effectively terminated. Nevertheless, these reservations being clear, it is necessary to conclude that every major indicator points to progress in implementing the reform. These indicators may be summarized as follows.

Administrative changes

- The regional and zonal ministry structures have been set up.
- The process of installing the NECs has been completed in the formal sense. (Their 'consolidation' is expected to require the years 1976-78.) The pace of creation of NECs has been:

	New NECs	% of Total	Cumulative Total	Cumulative %
1972	137	16.8	137	16.8
1973	140	17.1	277	33.9
1974	203	24.9	480	58.8
1975	339	41.2	819	100.0

- The new institutions, INIDE and INTE, have been established and are in operation. INIDE has succeeded in deploying its programmes through a major part of the country.

1. *Plan Bienal. Sector Educación 1975-76*, op. cit.

- The centralized Ministry organs are established. Those concerned with Regular Basic Education and Basic Education for Work have structures capable of producing the curriculum guidelines for reform.

Programme and service level changes

- The total education system (including non-reformed portions) has continued to grow significantly. The figures for the last three years are:

	1973	1974	1975
Initial	107.3	138.0	178.5
Reg. Basic and Primary	2,636.3	2,734.2	2,893.9
Basic for Work and Evening Schools	161.7	131.1	199.7
Total system (Inc. secondary, university, etc.)	3,954.8	4,171.0	4,558.8

- The reformed programmes for Regular Basic Education have been issued and are being implemented up through grade 4 (end of cycle I); those for Basic Education for Work up through grade 7 (cycles I and II and part of III).
- A rapidly increasing proportion of the total education system has been incorporated into the reform. The numbers of students studying in reformed programmes has grown as follows (thousands):

	Initial	Basic Reg.	Basic for Work	Total all types (includes other modes of ed.)
1973	107.3	300.9	56.8	524.4
1974	138.0	607.7	134.1	948.6
1975	178.5	1,109.7	242.3	1,628.9

- The production of educational materials has been developed. As of mid-1975, approximately 1.5 million texts had been distributed in the Basic Regular System to students, with more than 0.5 million more in production for distribution within the following months. In addition to these figures, many hundreds of thousands more documents have been produced for other portions of the system, for training and so on.²

Taken as a whole, these indicators demonstrate that a major reform is underway and progressing rapidly. The interpretation of events beyond this simple remark is, of course, subject to differing points of view. An examination of plans made at the time the General Law was approved³ shows that there are delays in fulfilling the objectives of conversion to the new system. For example, according to plans made in 1972, it was in-

1. For this and following statistics see: *Desarrollo de la educación Peruana 1973-1975, op. cit.*

2. *Segundo informe trimestral de 1975*. Lima, Oficina Sectorial de Planificación, MINEDUC, 1975. p. 24-25.

3. *Plan nacional de desarrollo 1971-1975. Vol. VIII. Plan de educación reajustado*. Lima, Oficina Sectorial de Planificación, 1972.

tended that the reformed programme of grade 1, Regular Basic Education would be operating throughout the entire country in 1974; under the revised 1975-76 plan this is actually being carried out in 1976. On the other hand, the slippage in the remainder of the implementation is approximately similar, so that the total conversion will probably be going forward with what is, in historical perspective, a not too significant delay. In addition, it may be noted that the conversion to the 'adapted' curriculum (intermediate between the traditional and the completely reformed), has been carried out according to the original schedule, i.e. almost the entire system of Regular Basic Education is currently operating with adapted programmes.

The author's personal interpretation of events is as follows. The indicators above regarding the rate of conversion *actually accomplished* show that the rate of implementing the reform -- particularly in the light of its thoroughness -- is extremely rapid. That the initial estimate of conversion set targets which were unrealistically rapid, can be interpreted as a shortcoming of the planning process at that time. This, however, was a technical fault which appears to have been corrected; more recent plans show improvements both in realism and accuracy. Meanwhile, the rate of actual progress is, under the circumstances, extraordinary. The reform is going ahead in a fashion that appears irreversible.

Analysing the processes. The first question asked, whether the reform was actually going ahead, has been answered in the affirmative. How then can it be described? The answer to this will enable a coherent description to be formulated of the Peruvian model of education reform. Taking as an underlying assumption that the Peruvian authorities view the reform as a process of *planned change*, it is possible to study the different reform processes by using a single unifying perspective. Essentially, it may be asked: how is a reform deliberately designed, adopted and implemented under the circumstances prevailing in Peru? Or, to rephrase the question as a task: the analysis must seek to determine *what innovation strategies have been used for the reform either explicitly or implicitly*.

This phenomenon of change may be described with the vocabulary of Chin and Benne,¹ who classify strategies for effecting change in human systems under three broad headings.

Strategy Type

Empirical-rational

Normative-Re-educative

Examples

Basic research and dissemination of knowledge through general education.
Personnel selection and replacement.
Use of systems analysis.

Applied research and linkage systems for diffusion of research results.

Improving problem-solving capabilities of a system.

Releasing and fostering growth in the persons who make up the system to be changed.

1. Chin, R.; Benne, K.D. General strategies for effecting changes in human systems in: Bennis, R.; Benne, K.D.; Chin, R. *The planning of change*, second edition. New York, Holt Rinehart and Winston, 1969. The titles of strategies have been modified in accordance with Dalin, op. cit.

Strategy Type

Political-administrative
(‘power-coercive’)

Examples

Administrative decisions
Legislation
Revolution

The Peruvian model of change borrows from all these types. The choice of strategy appears to depend clearly upon the phase of the innovation process. For general treatment, the reform will be divided into two large phases: (a) transition from revolution to reform and (b) implementation.

From revolution to reform

The Peruvian educational reform owes its inception to a government which issued from a revolutionary seizure of power. The first major grouping of innovation processes can be understood as the result of a gradual transition from a revolutionary régime of exception to the use of normal administrative procedures for the conduct of affairs. The different stages of this transition are related to different types of strategy.

Programmatic revolution. The revolution, as described earlier, was characterized by the high degree of planning that preceded it. The result of this planning was the definition of a programme, the Inca Plan, in which education was viewed as one part of a larger set of societal changes which were to ensue from the revolution. In the typology of Chin and Benne, the revolution constitutes the most drastic of the ‘power-coercive’ or political-administrative strategies, but this type of change is viewed as being based upon the existence of a state or power mechanism (such as an administration) of which one group obtains control. The control can be obtained by a variety of means, including elections or the change of the state’s underlying processes through revolution. The reform, it has been seen, was a direct outgrowth of a revolutionary change.

Adoption with consultation. The formulation of the reform was carried out primarily by the Reform Commission, a body set up by the government with quite independent status from the general routine functioning of the Ministry of Education. Although the tasks carried out were eminently intellectual in nature, the context was one in which exceptional powers were available, through the Revolutionary Government, for arriving at a decision regarding the content of the reform. The issuing of the General Report constituted an interesting departure from many revolutionary programme processes, in that it incorporated a specific phase for widespread discussion and reaction. In this way significant feedback was obtained and changes were made prior to the decision to adopt the General Law. This process of consultation represents a clear movement in the direction of moderating revolutionary power by introducing the opportunity for countervailing voices to be heard; since most partisan activity from the period prior to the reform had been brought to a halt, the consultation still occurred under conditions of exception.

Legal-administrative reforms of structure. The General Law, adopted under a régime of exception, provided a clear framework for subsequent action. This meant that a much broader set of institutional structures could be brought into play, even though decisions ultimately required approval at the highest level. The period following the adoption of the General Law was that in which the major changes of institutions occurred. As already noted, however, the tightening of discipline in the Ministry of Education came almost immediately after the change of régime; and the decentralization process was also underway prior to the adoption of the General Law. The legislative actions in the ensuing period (1972-74 primarily) are too voluminous to document here, but the major

general trends of action have been noted earlier: adoption of a new Ministry of Education structure, creation of INIDE and INTE, strengthening of planning functions, initiation of the process of creating NECs, and a large number of related implementation measures. By definition, these constituted legal-administrative strategies at the point when the new institutional structures were set up. Nevertheless, it should be understood that this classification applies only to their creation, not to their subsequent activities. They were intended to operate in entirely different modes from the legal-administrative. The transition to 'normal procedures' at the higher level of administration can be considered to have been almost complete at the point when the different 'organic' laws were adopted and the relevant personnel reassigned.

'Retraining' or political conscientization. The utilization of *entrenadores* to popularize the reform at the grassroots level is one of the more interesting departures in the development of the Peruvian model. Furthermore, the changes in the operation of the *entrenadores* over a short period of years reflect accurately the shift from revolutionary to reformist activity. The trainers started out as a small group of persons charged with explaining the General Report throughout the country in meetings with teachers. The General Report was not yet law, simply a plan; its content involved a radical departure from existing educational structures and methodologies. Resistance was to be expected, particularly since the report had originated without direct involvement of the teachers' unions, which had previously represented a major political force. Retraining was an obvious response to this situation. The *entrenadores* took the tone of their approach from the highly critical statements in the General Report and used the retraining process as a means of developing awareness of the shortcomings of the previous system. In short they encouraged strong criticisms of the former administration, the schools, and everything they stood for. This criticism was directed towards encouraging educators to adopt the principles of the reform by making them understand the imperfection of their previous activities and thereby motivating them to participate in the change process. In other words, this is 'adoption' at the individual level, the equivalent of what occurred at the institutional level when the General Law was adopted. It took place within a context that preserved the atmosphere of the revolution but by means which can only be classified as 'normative-re-educative' in the typology of innovation strategies.

The promulgation of the General Law changed drastically the context in which the *entrenadores* worked. Whereas the administration and schools had previously been the object of attack and criticisms for what they did, they were now becoming the instruments of the reform. The longer the reform was underway the more difficult it would be to distinguish the remnants of the old system from the new, so that criticisms might easily be directed against the reform itself. This was particularly true since the *entrenadores* were a relatively small corps administered on the basis of direct links through INIDE to the central authorities. Plainly, if the critical process was to continue, it would have to be *within* the system rather than from outside.

The first step in rectifying this anomaly was the attachment of the *entrenadores* to the zonal offices of the Ministry, i.e. placing them under the control of the regular administrative structure; the content of their work continued to be co-ordinated via INIDE. The course of other events was meanwhile creating a situation in which a further, logical change would occur. The introduction of curricular and administrative reforms in the NECs created a very high level of demand from teachers for assistance with the teaching process, and as acceptance of the reform grew, the need for the critical role was diminishing. The *entrenadores* were themselves teachers, and their

training had involved large amounts of additional instruction on technical-pedagogical matters. The retraining process, too, had included an important amount of technical instruction, which was considered necessary for implementing the reform. Recent trends have further emphasized the technical-pedagogical side of their tasks, and the *entrenadores* are gradually acquiring roles similar to those of members of the technical-pedagogical teams of the zonal offices.

A final change in the system of retraining should be mentioned. The rapid spread of the reform creates two kinds of demands for technical assistance. The first is for installation, the period when the new curriculum phases in; the second is for long-term support in the reformed sector after the initial implementation of the reformed curriculum. The growth in the need for the latter type of assistance is a function of the proportion of the system which has undergone reform. Thus installation and adoption were, in the beginning, the main problem; now, as more and more schools and grades are phased into the reformed system, the need for continuing assistance rises; finally, in the foreseeable future, the reform will be entirely installed and demand will be exclusively for continuing assistance. The present situation is one in which demand for continuing assistance has no doubt outstripped that for initial training, at least with regard to total numbers of teachers concerned. Because limitations on resources impose greater efficiency, a new pattern of training is being implemented. Rather than lengthy residential instruction periods of up to five months, training is being given primarily in short, small-scale courses spread over a period of two years. In this way, the teachers are not withdrawn for periods so long that replacements are required. The assistance provided between the short courses blends gradually into the permanent support provided through the NECs. The term 'permanent retraining' has been coined to describe the new underlying philosophy.¹

The changes in the process of retraining have been reviewed at length in order to illustrate the way in which a single strategy can be implemented in multiple forms in response to changing circumstances.

Institutionalized participation. The creation of the NECs and their rapid generalization through the country have provided the framework within which another change strategy can be carried out. It is based upon the idea of local participation in decision making and problem solving. In the Peruvian environment the participation in the NECs has a number of interesting characteristics that set it off from many other models of participation.

- The Communal Educational Councils are composed in such a way as to balance different interests groups -- educators, parents, other community organizations.
- The extent of decision making is currently restricted inasmuch as the NECs do not yet control their own budgets; however, given the general shortage of educational resources per school, this lack of control is quite unimportant and can be counterbalanced by the extent to which the participation mechanism generates new resources within the community.
- The specific legal exclusion of party organizations from participation is intended to isolate the participation process from regular political life.
- The research carried out by teachers in their situation diagnoses is seen as a part of the participation process.

1. Data for this section on *entrenadores* is based on personal interviews with Peruvian authorities and the most recent plans of INIDE and the education sector.

- In areas where there are significant numbers of persons who speak Indian languages, the new bilingual policies add an entirely different cultural content to the participation process.

Taken together, these factors constitute a unique model of participation. Data available at present are insufficient to permit an assessment of internal processes of innovation within the NECs. All that can be stated, now that the model is being implemented in an entire education system, is that the actual operations will vary extraordinarily as between, for example, the capital city and a remote district with a majority of Indian inhabitants. The underlying philosophy of operation appears to be within the 'normative-re-educative' domain, in which the participants are supposed to collaborate in joint problem solving, with support structures that provide assistance from higher levels of the system on technical matters. The creation and operation of the NECs constitute one of the most fertile areas for investigation of the innovation process. The emphasis on teachers' scientific activities suggests that, in addition to the attitudinal changes deriving from interaction with other persons, the participation process in the NECs is intended to have a strong rational bias. In this way, it appears to be mid-way between normative-re-educative and empirical-rational strategies of innovation.

Planned reform implementation

All the elements of the process traced above can be linked to the transition from revolution to institutionalized reform. As regards the system of basic education, the Peruvian model clearly seeks to channel change processes through the normal system of administration and institutional functioning. Where revolutionary objectives require exceptional measures for their implementation, an effort has been made to build the means into the institutional framework, hence the importance of the infrastructure development. To all intents and purposes, the entire set of infrastructure changes is intended to foster innovation purposes that belong to the empirical-rational category. This approach is based upon the premise that the objectives and framework of the reform, having once been defined through political-administrative procedures, are fixed, at least at the general level.

Planned, phased implementation. The entire process of reform is postulated on the idea that planning, rather than improvisation, is the key to effective implementation. This planning has been carried out in two contexts: reform implementation and current operation. The reform has been implemented in three phases:

- (i) Initiation and adaptation: an innovation, such as the new curriculum for a given grade, is tried out in a limited number of places, problems are isolated and overcome, and adaptations made to the innovation.
- (ii) Expansion and adaptation: the innovation is used in a comparatively large number of places, taking into account the lessons learned in the initiation phase. Where appropriate, further adaptation occurs.
- (iii) Generalization: the innovation is generalized to the entire affected sector of country.

These steps were used for phasing in the NECs and are being followed for each new curriculum change. The delay in the installation of the reformed system, referred to earlier, corresponds to the decision to spread these three phases over five years, rather than three, for each new grade. The new plans divide the initiation and expansion phases into two years each, giving a scheme as follows:¹

1. cf. *Plan nacional de desarrollo 1971-1975*, ..., op. cit. *Plan bienal. Sector Educación 1975-76*, op. cit.

Phase	Curriculum change (Basic Regular)		
	Grade 2	Grade 3	Grade 4
Initiation			
137 NECs	1973	1974	1975
Initiation (same no.)	1974	1975	1976
Expansion			
277 NECs	1975	1976	1977
Expansion			
480 NECs	1976	1977	1978
Generalization			
819 NECs	1977	1978	1979

Regarding the innovation process, there are two important points to note here. First, the initiation phase is ordinarily preceded by small-scale experimentation of curricular ideas as part of the research-development-diffusion process referred to below. Secondly, this process of implementation, beginning with small-scale experimentation in a handful of NECs, then proceeding in the proportions 137-137-277-480-819, has a very interesting property; it corresponds roughly to the S-shaped pattern of adoption of innovations under 'natural' or unplanned conditions: a small beginning among 'innovators', then a few 'early adopters', an 'early majority' and, finally, a 'late majority' trailed by a few 'laggards'.¹ The planning model used in Peru leaves out the 'laggards', though natural delays from local circumstances probably introduce this element that, for obvious reasons, planning ignores.

At the level of current operations, planning is used as a tool for the management of the entire education system. The following are the characteristics of the planning process at the present time.

- (i) The planning framework is inter-sectoral. General priorities are set for all governmental sectors, so that the plans for education fit within a national plan. Whereas the Revolutionary Government promulgated the General Law and began its implementation within the framework of five-year planning (1971-75), the process is now carried out within a four-year medium-term plan (1975-78) divided into two-year segments.
- (ii) Within the education sector, the plan takes into account the programming of the reform and makes less specific allowance for the type of phasing referred to above (initiation, expansion, generalization).
- (iii) The obligatory annual reviews of plan fulfilment, carried out by all operational units as part of drawing up the new yearly plan, constitute a major device for developing managerial skills and awareness throughout the system. (At the central level, all major activities are reviewed quarterly).
- (iv) The planning system, because of the volume and increasing accuracy of feedback data on plan fulfilment (iii), has apparently turned into the major means of controlling the implementation of the reform.²

1. cf. Huberman, *op. cit.* and sources cited there, p. 33-35.

2. Internal ministry documents to which the author has been given access leave no doubt as to the realism and accuracy of the feedback data, even when these may be unfavourable to the units concerned or to governmental policies in a given domain.

Decentralized problem-solving. The decentralization of the administration and the creation of the NECs are intended to foster a multi-level process of problem-solving. At each further level of decentralization, adaptation of the reform is supposed to occur. While the structures, at the level of regions and zones, are primarily administrative structures, at least as regards their form, the emphasis on providing new technical-pedagogical services is obviously intended to modify the nature of what goes on within the administration. Instead of a bureaucracy mainly devoted to handling routine business matters such as personnel administration and finances, the Ministry's regional and zonal offices are being reoriented toward providing assistance to lower levels about pedagogical matters. The process culminates in the NECs, where technical-pedagogical resources are confronted with local educational reality through three channels: the participation process in the Communal Educational Councils, the research process in the situation diagnoses, and in the classroom itself. The nature of the support services at each level definitely situates the logic of this decentralization in the empirical-rational sphere of innovation strategies.

Research-development-diffusion. The important role assigned to INIDE in the process of curriculum reform, as the prime input for new ideas both to the curriculum and to in-service training, is the result of a deliberate decision to foster the research-development-diffusion model for orienting new approaches to teaching. The regionalized strategy for descriptive research and the emphasis on in-service training for technical-pedagogical specialists in the regional and zonal offices, complement decentralized problem-solving. Again, the strategy is fundamentally empirical-rational; the inputs from local participation in the NECs and the activities of the *entrenadores* add a normative-re-educative dimension consistent with the revolutionary atmosphere which generated the reform.

Obstacles to change processes

At this point, it is possible to review the problem confronting this series of processes. No systematic data are available as a basis for determining the impact of obstacles on the reform; indeed, it is far too early to make such an assessment. For the present, it is simply possible to show the major structural problems which exist, proceeding from the general to the particular.

- (i) Because the educational reform is dependent upon changes in other parts of the social system, delays elsewhere would tend to slow the educational reform. Similarly, any major difficulty affecting the general operation of the governmental administration would have adverse effects. As noted earlier, the economic reforms of the revolutionary régime have been implemented to a large extent, at least as regards structural changes. Although the effects on individuals may be slow in appearing (e.g. raising nutritional levels among pre-school children would tend to improve the performance of the children affected but would not have effect upon older children who had suffered in earlier years), the pace of change outside the education system does not presently appear to be notably slow. Because of the enormous size of the education system, the reverse problem might be more likely.
- (ii) The reform is proceeding with basic education ahead of other parts of the system at higher levels. Since a reform must begin somewhere, such differences of pace are inevitable. The longer higher education remains outside the reform however (university reforms are planned for later, but some delays in adaptation are already apparent¹), the more likely it is that

1. Lallez et al., op. cit

difficulties will occur. For example, the carrying out of the reform requires that new entrants to the teaching profession be trained suitably. The teacher training system is just entering the change process; should delays occur, they would be serious.

- (iii) Lack of financial resources is the most obvious constraining factor on the pace of the reform. Between 1971 and 1974, the last date for which figures are available, educational expenditures as a proportion of total government expenditures rose from 20.5 per cent to 23.1 per cent, reflecting governmental priorities in launching the reform. As this trend is not expected to continue, however, measures are being taken to increase efficiency. These include reducing the number of administrative jobs and increasing teaching post correspondingly.¹
- (iv) The less obvious factor, but the most important, is the difficulty individuals encounter in adapting to changes as drastic as those intended here. Retraining and in-service education for personnel in the education system facilitate adaptation, but much is dependent upon the success with which localized decision making and problem solving function; the related structural changes are intended to generate activities which, in turn, will modify the attitudes and behaviour of participants. Some obvious points where problems can be anticipated are listed below.

Decentralization. There is no national tradition of decentralized administration of public services. Since managerial skills are acquired only slowly through actual decision making, administrative efficiency improvements will tend to be gradual.

Participation. The NECs were created in part to remedy widespread apathy towards educational services, viewed as something provided by a distant State bureaucracy. Even in urban areas, a change in attitudes among the public is likely to be slow. In rural areas, among persons traditionally excluded from political processes, the willingness to participate may be difficult to translate into meaningful activities; a community learning process will be necessary.

Teacher attitudes and skills. The teachers in Peru have a strong tradition of partisan political activity which, in fact, was criticized in the Inca Plan. The reform's success is partly dependent on redirecting these activities into technical-pedagogical channels. On the other hand, if teachers did not respond to the general political aims of the reform in the social domain, this would also compromise the outcome. Thus, the success of the reform, as now conceived, requires a carefully maintained balance between political commitment and technical concern. Finally, of course, the drastic reform of the curricula poses major problems. No country which has introduced new mathematics, for example, has escaped the problem that the curriculum content is extraordinarily difficult to master for many teachers with established teaching habits. In Peru, particularly for teachers with lower levels of training and those in remote areas, upgrading of skills will be a long, slow process.

Bilingualism. The policies admitting the Indian languages, particularly Quechua, to a recognized status, break with very deep traditions. Not only does this reform require development of new teaching skills, it also requires the most fundamental shift in attitudes on issues of culture and race. Of all the steps in the reform, the policies on bilingualism are the most demanding of the persons concerned; they are also those which hold the greatest promise of fundamental, long-term improvement in societal integration. The level of difficulty is matched by the hope generated.

1. Lallez et al., op. cit.

In summary, the obstacles to change are very similar to those encountered in any large reform in any country. A retrospective examination of happenings shows that there have been two broad phases. The first represents a transition from a revolutionary situation to a more 'normal' state of change; the second, intended to be the long-term condition of the education system, is characterized by rapid reform based on planned change strategies. In general, using the categories proposed by Chin and Benne, a steady shift in approach has been observed. Beginning with revolution, the most drastic of the political-administrative strategies of social change, the Peruvians have moved gradually along the spectrum towards normative-re-educative and, finally, empirical-rational strategies. This shift tends to confirm a general observation made by other authors,¹ that educational innovation does not occur in response to a single strategy but rather through a spectrum of strategies used at different points in the process. Although obstacles to change have been identified, they do not contradict the conclusion derived from the indicators cited above: the Peruvian reform of basic education is moving ahead rapidly.

Conclusions: The Peruvian model of innovation

The authors of the Peruvian educational reform were fully informed of scientific knowledge on the topic of innovation and set about to design a system of change which would permit them to achieve broad national goals for education. The foregoing analysis of their efforts has revealed the contours of a distinctive model of innovation. Its elements may be summarized as follows.

Origin. The educational reform grew out of a general programme of social reform. It was designed under revolutionary conditions but, through the issuing of the General Report, a process of consultation permitted the reform to be modified prior to the promulgation of the General Law of Education.

Scope. The reform incorporated almost every imaginable type of educational innovation, integrated within a single, coherent plan. The objectives and functions of the education system as a whole were redefined in the light of a revolutionary outlook. From this the remainder of the scope was deduced -- redefinition of objectives and functions at lower levels of generality, reorganization and decentralization of administration, modifications in the roles and role relationships of educators and educated, and curriculum reform affecting the structure of the school, the programmes taught, and every aspect of teaching method. Faced with a fundamental option, the Peruvians have taken the courageous decision to forge ahead with a policy of bilingualism capable of altering the cultural context of society as a whole.

Means. A conscious effort was made to design into the new institutions the capacity to carry out the aims of the reform in a creative, flexible fashion. New relationships have been defined and new organizational units created. The resulting configuration includes subsystems for planning resource allocation, curriculum reform, in-service education, research and development, and mass media approaches to education. The whole constitutes a coherent infrastructure for renewal.

Process. The strategies employed in conceiving, adopting, and implementing the reform show a gradual transition along the spectrum: political-administrative, normative-re-educative, empirical-rational. The process is typical of post-revolutionary situations but is seldom seen in such completeness and consistency. The major obstacles to change have been anticipated by the designers of the Peruvian reform and measures have been taken to deal with each of them; how successfully, only time will tell.

1. Dalin, op. cit., p. 51.

ABBREVIATIONS USED

CECAPES	Centros de Calificación Profesional Extraordinaria
ESEP	Escuela Superior de Educación Profesional
INIDE	Instituto Nacional de Investigación y Desarrollo de la Educación "Augusto Salazar Bondy"
INTE	Instituto Nacional de Teleducación
LGE	Ley General de Educación (Decreto Ley 19326)
MINEDUC	Ministerio de Educación
NEC	Núcleo Educativo Comunal
OSPE	Oficina Sectorial de Planificación (Sector: Educación)
SINAMOS	Sistema Nacional de Apoyo a la Movilización Social

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